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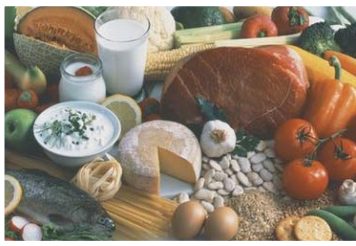
The essence of medical practice

Labor Analgesia



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EDITORIAL

Dear Doctor,

Info Medicus is a on, open access newsletter that publishes review articles, case reviews and variety of topics related to all aspects of medicine. Our publishing articles are relevant to those working in both hospital and pre-hospital environments. The aim of this newsletter is to encourage the dissemination of local and international knowledge in an area that is one of the most challenging areas of medicine. It brings to light the various clinical advancements and research developments attained over the world and thus help the specialty forge ahead.

In this issue, we have presented Review Article on "Labor Analgesia". Pain management is a universal concern for women during labor. Pain relief plays only a limited role in overall maternal satisfaction with the childbirth experience. However, the relationship between the patient and the physician involved is important to make the patients feel at ease that improves maternal satisfaction to a greater degree.

A gastrostomy tube provides access for long-term enteral nutrition in patients who are unable to eat. Gastrostomy tubes may be required in patients with cancer, stroke, traumatic brain injury, or other conditions. The procedure of exchanging gastrostomy tube is easy to master and has a low risk of adverse events and complications. That's why we highlight "Gastrostomy-Tube Exchange" in Clinical Method.

Meningeal carcinomatosis is characterized by diffuse or multifocal infiltration of leptomeninges by metastatic cells. Most commonly involved cranial nerves are occulomotor, abducens, and trigeminal nerves in solid tumors and facial nerve in leukemic meningitis. There are only a few reports of deafness or blindness as presenting complaint of meningeal carcinomatosis. Thus, we have embellished Case Review on "Deafness and blindness: A rare presentation of meningeal carcinomatosis".

Besides these, we one introduces new section View Point which will refresh your memory regarding "Oral manifestation of tuberculosis".

In Diagnosis at a Glimpse, we have featured three case scenarios which, we think will be an enjoyable exercise for you.

Addition to these, we have featured "Management of Cervical Cancer: summary of SIGN guidelines" in Practice.

We foresee this issue to be more informative and useful for you on the basis of evolving medical science.

Thanks and best regards,

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Medical Services Manager

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Labor analgesia

Pain management is a universal concern for women during labor. A woman's confidence in her ability to cope with labor best predicts pain perception during the first stage of labor. Pain relief plays only a limited role in overall maternal satisfaction with the childbirth experience. The relationship between the patient and the physician, and being more involved in decision making improve maternal satisfaction. Therefore, physicians should talk with patients about labor analgesia options, concerns, and birth experience expectations throughout the prenatal period.

Analgesia refers to the relief of pain without the loss of consciousness. Modalities of analgesia during childbirth include regional analgesia, systemic opioid analgesia, continuous labor support, pudendal blocks, immersion in water during the first stage of labor, sterile water injections in the lumbosacral spine, hypnosis, and acupuncture.

Regional analgesia

Since 2000, regional analgesia has become the most widely used analgesia for labor pain in the United States. Regional analgesia leads to reversible loss of pain over an affected area by blocking the afferent conduction of its innervations with a local anesthetic agent. Epidural and spinal analgesia are two types of regional analgesia used to diminish labor pain. With epidural analgesia, an indwelling catheter is directed into the epidural space, and the patient receives a continuous infusion or multiple injections of local anesthetic. Unlike epidural injections, spinal injections usually are single injections into the intrathecal space. The epidural potential space is relatively large and requires more anesthetic volume than a spinal injection.

The onset of action of spinal analgesia is almost instantaneous, and one dose of medication can provide pain relief for several hours. Conversely, epidural analgesia requires at least 15 minutes until the patient's perception of pain is diminished. Spinal injections need to be placed below L1-L2, otherwise the spinal cord can be injured. Also, traditional spinal injections are more likely to affect motor as well as sensory fibers, which can limit the woman's participation in the second stage of labor.

Regional analgesia in laboring patients increases the risk of vacuum- or forceps-assisted vaginal delivery (relative risk [RR] = 1.42; 95% confidence interval [CI] = 1.28 to 1.57; 23 trials; n = 7,935). Some physicians try to reduce this risk by discontinuing epidural analgesia late in the second stage of labor.

Multiple randomized controlled trials (RCTs) have examined the effects of regional analgesia on other delivery outcomes. When comparing regional analgesia with no analgesia in a meta-analysis, no statistically significant impact was found in the risk of cesarean delivery, maternal satisfaction with pain relief, long-term backache, or immediate effect on neonatal status as determined by APGAR scores. The effect of epidural analgesia on long-term neonatal outcome needs further study but appears to be safer than the use of opioids.

Combined regional analgesia

Numerous centers now use a combination of epidural and spinal analgesia to provide pain control (Figure 1). This combination often is referred to as a walking epidural. This technique combines the positive effects of rapid pain relief from the spinal regional block with the constant and consistent effects from the epidural block. This technique also allows sufficient motor function for patients to ambulate. Combined spinal-epidural analgesia is usually composed of low dose opioids (e.g., fentanyl) in combination with a lower than usual dose of local anesthetic (e.g., bupivacaine, ropivacaine). The opioids affect the pain receptors without markedly affecting the motor neurons. The combined technique reduces the need for instrumental vaginal deliveries (absolute risk reduction = 8.6 percent; number needed to treat = 12); however, it may increase the likelihood that a newborn needs resuscitation (absolute risk increase = 1.6 percent; number needed to harm = 63).

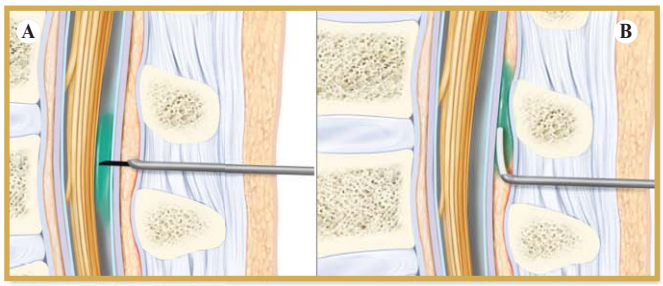


Figure 1: Sagittal section through lumbar spine demonstrating the exact position of (A) spinal needle delivering anesthetic into the subarachnoid space and (B) epidural catheter into the epidural space

Contraindication

Understanding the contraindications, risks, and treatments for potential complications with regional analgesia is essential.

Absolute contraindications to spinal analgesia

- Patient refusal
- Infection at the site of injection
- Hypovolemia
- Indeterminate neurologic disease
- Coagulopathy
- Increased intracranial pressure (except in cases of pseudotumor cerebri)

Relative contraindications to spinal analgesia

Sepsis distinct from the anatomic site of puncture (e.g., chorioamnionitis, lower extremity infection)

Potential complications

Absolute contraindications to regional analgesia are rare, but hypotension, which occurs in 15 to 33 percent of patients, is a common risk of regional analgesia. Initially, after receiving an epidural or spinal block, eliminating painful stimuli and the onset of peripheral vasodilation may reduce maternal blood pressure. A limited decrease in maternal blood pressure of a healthy patient typically is benign. However, severe hypotension may reduce uteroplacental blood flow, which could limit perfusion in a fetus already struggling to maintain oxygenation. Preloading (i.e., administering 500 to 1,000 mL of a crystalloid solution before traditional high dose local epidural analgesia) may have some beneficial fetal and maternal effects in healthy women by decreasing hypotension (RR = 0.07; 95% CI, 0.01 to 0.53).

Research does not support the benefit of preloading in low-dose epidural or combined spinal-epidural regional analgesia in labor. Therefore, physicians must understand the medications, dosages, and routes of administration at their local institution. Physicians should continue to treat hypotension related to regional analgesia with additional intravenous boluses of crystalloid solution or administration of small intravenous doses of a vasopressor (e.g., 5 to 10 mg of ephedrine).

Complications to regional analgesia

- Postdural puncture headache
- Neurologic injury
- Epidural hematoma
- Deep epidural infection
- Increases the risk of instrument-assisted vaginal delivery
- Transient postpartum paresthesis
- Motor dysfunction

Postdural puncture headache is the most common complication following either procedure. Because most physicians now use fine spinal needles, these headaches have become less common. Patients usually describe headache symptoms that worsen after sitting or standing from a recumbent position. Most spinal or epidural headaches (usually caused by accidental dural puncture) will present within the first 24 hours after the procedure, and can be managed by watchful waiting until the headache resolves. If the headache does not resolve, an autologous epidural blood patch usually provides relief. This consists of a small amount of the patient's blood injected into the epidural space near the original puncture site to produce a clot, blocking the meningeal leak.

Transient postpartum paresthesis, motor dysfunction, and epidural infections occur in less than 1 percent of procedures. Physicians can minimize these risks by performing the procedure with sterile technique and by first administering a test dose of lidocaine and epinephrine to detect intravenous or subarachnoid placement of the catheter.

Systemic opioid analgesia

Systemic opioid analgesia is a commonly used adjunct with subsequent initiation of regional analgesia or an independent method of pain control used early in the first stage of labor. However, repeated maternal administration of opioids results in considerable fetal exposure and increases the potential for neonatal respiratory depression. Patient-controlled analgesia with synthetic opioids such as fentanyl, alfentanil, and the new ultra short-acting remifentanil may be used for labor analgesia.

One RCT demonstrated that early epidural analgesia (i.e., before the onset of labor) resulted in better pain control than systemic opioid analgesia during induction of labor (a score of 2 versus 6 on a 0 to10 scale; $P < .001$). This finding was evident in nulliparous women admitted for induction of labor at more than 36 weeks gestation with intact membranes and cervical dilation of less than 4 cm. Cesarean delivery rates were similar between the group receiving early epidural analgesia and the group receiving systemic opioid analgesia (33 versus 32 percent, respectively). Duration of labor was slightly shorter in the early epidural analgesia group (median: 528 versus 569 minutes). There were no differences in mode of vaginal delivery or in newborn APGAR scores.

Early use of regional analgesia decreased the use of sedatives and systemic opioids, leading to less neonatal exposure and subsequently less risk of neonatal depression. These results challenge the widely held notion that early regional analgesia increases the duration of labor and likelihood of cesarean delivery in near-term to term nulliparous patients undergoing induced labor. Because the results are from a single RCT, more research is needed.

Other approaches to analgesia

Women with short labors, black, older without private insurance, and women with no prenatal care are more likely to decline regional analgesia. Some patients decline analgesia altogether to undergo a natural birth experience. Whatever the reason, it is important for physicians to become acquainted with other forms of analgesia in labor. Studies have shown that continuous labor support, pudendal blocks, water immersion, sterile water injections into the lumbosacral spine, self-taught hypnosis, and acupuncture also relieve pain during labor.

Pudendal block

A pudendal block may be used for analgesia in the late stages of labor. The block may provide pain relief of the vaginal introitus and the perineum, but provides no relief from the pain of contractions. Because it is given close to the time of delivery, there is often little systemic absorption. Large doses of anesthetic that may be required to have the potential for local anesthetic toxicity, and there is also the potential for hematoma or abscess formation.

The pudendal block is performed via a transvaginal approach where an Iowa trumpet is used to inject approximately 5 to 10 mL of local anesthetic into the pudendal canals bilaterally (Figure 2). The procedure is relatively simple and may provide up to one hour of pain relief. Lidocaine 1% and chloroprocaine 2% are the most commonly used agents. To avoid the risk of intravascular injection, aspiration of the syringe should occur before injecting the local anesthetic.

In an RCT of 111 patients, 56 received pudendal block and 55 received subarachnoid block at 7 cm or greater. Of the patients who received subarachnoid block, all but one reported satisfaction in pain relief, whereas 40 patients who received pudendal block reported no improvement in pain with contractions.

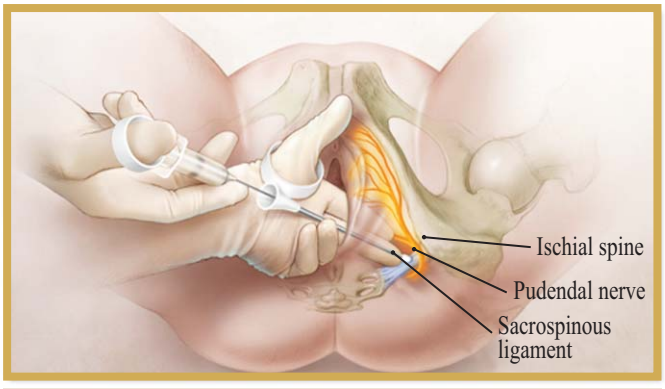


Figure 2: Pudendal nerve block injection site with the transvaginal approach

Continuous labor support

Continuous support during labor, such as from a doula, increases the likelihood of a spontaneous vaginal birth and has no identifiable adverse effects. A Cochrane analysis found that women who received continuous labor support were less likely to report dissatisfaction with or give a negative rating of the childbirth experience (six trials; n = 9,824; RR = 0.73; 95% CI, 0.65 to 0.83), and also were less likely to receive intrapartum analgesia (12 trials; n = 11,651; RR = 0.89; 95% CI, 0.82 to 0.96). In general, the beneficial effects were greater when the support provider was not a member of the hospital staff, when intrapartum analgesia began early in labor, and when epidural analgesia was not routinely available. Anxiety and fear of pain correlate with a higher reported experience of pain, and continuous labor support remains an effective form of pain relief.

Other techniques

Sterile water injections into the lumbosacral spine (Figure 3) may limit some labor-related back pain for up to two to three hours, and have a rapid onset of action; however, this technique has not been shown to affect the overall use of pain medications. Women using self-taught hypnosis required less pharmacologic analgesia (RR = 0.53; 95% CI, 0.36 to 0.79; n = 749), including epidural analgesia, and were more satisfied with their pain management in labor compared with the control group. Similarly, acupuncture decreased the need for medicated pain relief (RR = 0.70; 95% CI, 0.49 to 1.00; n = 288). These results were not replicated in women who used aromatherapy (i.e., essential oils) or audio analgesia (i.e., white sound set at 120 dB). These two modalities were evaluated in only a small number of patients (22 and 24, respectively).

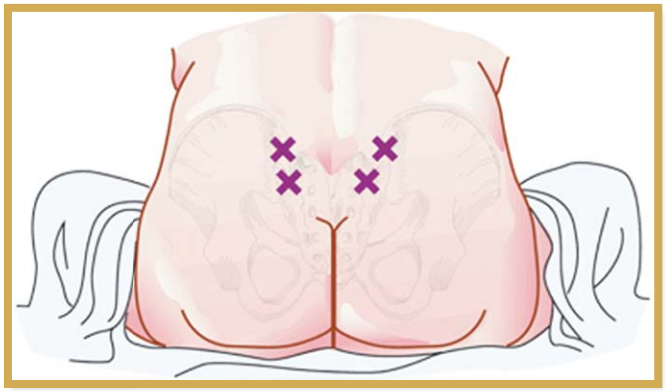


Figure 3: Intradermal injections of 0.1 mL of sterile water in the treatment of women with back pain during labor. Sterile water is injected into four locations on the lower back, two over each posterior superior iliac spine (PSIS) and two 3 cm below and 1 cm medial to the PSIS

Immersion in water

Immersion in water during the first stage of labor significantly reduces the patient's perception of pain and decreases the use of epidural or spinal analgesia without affecting the rates of assisted vaginal deliveries, cesarean deliveries, maternal infection, APGAR scores, neonatal unit admissions, or neonatal infections. A 2004 study found that water immersion resulted in a decrease in time to delivery in patients with slow labor progress.

Common methods of pain management during Labor

Method	Example	When to use	Contraindications	Potential complications
Acupuncture or acupressure	Multiple anatomic sites have been studied with varying protocols	First stage of labor	None	None
Continuous labor support	Doula	All stages of labor	None	None
Epidural analgesia	16 to 18-gauge needle into epidural space, catheter inserted through needle, and the needle is removed	First and second stages of labor	Coagulopathy, skin infection at injection site, hypovolemia	Hypotension, allergy to local anesthetics, high spinal or total spinal anesthesia, paralysis, nerve injury, spinal headache, back pain, fever, increase in instrument-assisted vaginal delivery rates
Pudendal block	5 to 10 mL of 1% lidocaine using Iowa trumpet and 20-gauge needle	Late first stage through perineal repair to alleviate pain radiated to sacral nerves	None	Monitor local anesthetic toxicity, especially in combination with perineal and labial infiltration
Spinal analgesia	25 to 50 mg of hyperbaric lidocaine into subarachnoid space with 24 to 27-gauge needle	First and second stages of labor	Coagulopathy, skin infection at injection site, hypovolemia	Hypotension, allergy to medications used, increase in instrument- assisted vaginal delivery rates
Sterile water injections	0.1 mL of sterile water with a 25-gauge needle	First stage of labor, or if patient has prominent back pain	None	None
Systemic opioid analgesia	Butorphanol Fentanyl Nalbuphine	First stage of labor	Based on the patient and the medication used	Nausea, respiratory depression, decreased variability, neonatal depression, hypoventilation
Water baths	Water immersion	Active labor	Active infections Temperature of water above body temperature	None

Helping patients decide

Even though there are multiple options for labor pain management, women often experience pain during childbirth in accordance with their expectations. Analgesia options should be explored early in the prenatal period. Encouraging patients' participation in pain management may help reduce pain and increase their satisfaction in the childbirth experience. Physicians should know which analgesia options are available at the delivering institution, the patient's desire for regional analgesia, the availability of continuous labor support, and the potential for complications related to specific interventions.

Reference: *Am Fam Physician. 2012 Mar 1;85(5):447-454*

Gastrostomy-Tube Exchange

A gastrostomy tube, or "G-tube," provides access for long term enteral nutrition in patients who are unable to eat. Gastrostomy tubes may be required in patients with cancer, stroke, traumatic brain injury, or other conditions.

Indications

A gastrostomy tube may need to be reinserted

- After accidental dislodgement of tube
- Malfunction due to cracked tube or
- Nonworking ballon
- Scheduled exchange

The longevity of gastrostomy tube balloons is variable and depends on a number of factors (e.g., the manufacturer, stomach acidity, and the volume of water in the balloon). One study reported a median longevity of 6 months.

Contraindications

- Lack of proper equipment
- Absence of continued need for gastrostomy tube
- Placement of gastrostomy tube within previous 6 weeks

Studies in animals have shown that a gastrocutaneous tract forms within 1 to 3 weeks, but in a malnourished patient more time would be required; thus, leaving the tube in place for approximately 6 weeks is appropriate.

Anatomy and identification of gastrostomy tube

A gastrostomy tube is inserted through the skin into the stomach. There are different types of tubes. Some gastrostomy tubes are fitted with a deformable plastic mushroom. This type of tube is placed by means of the percutaneous endoscopic gastrostomy (PEG) technique. The standard PEG tube is fitted with a mushroom tip and does not have such a port (Figure 1).

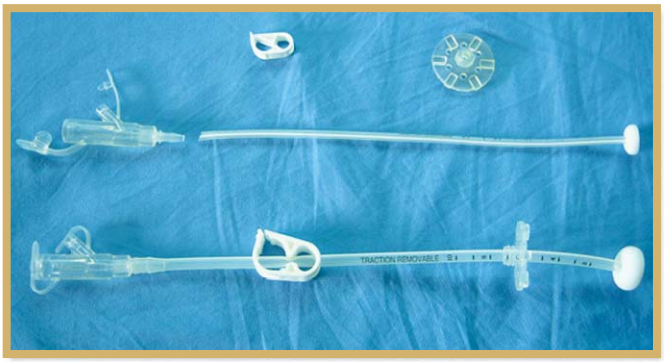


Figure 1: Two types of Gastrostomy tubes

Preparation

The patient's enteral nutrition does not need to be restricted or discontinued before the gastrostomy tube is changed. In preparation for the procedure:

- Patient should be in a supine position
- Head of the bed may be raised 30 degrees if that angle makes the patient more comfortable
- The tube that is already in place should be inspected; diameter of the tube and the volume capacity of the balloon
- Inspect how deeply the tube has been inserted at the surface of the skin and at the top of the external bumper (in centimeters). Sometimes, all markings on the tube may have worn off

Figure 2: Insertion of new Gastrostomy tube

Equipment

- Replacement tube
- Water-based gel lubricant
- Syringe, 10 ml, containing water
- Catheter-tipped syringe 60 ml
- Clean gloves

Testing the tube

Before using the new tube, test the balloon. First note the amount of water needed to fill it. Fill the balloon with its maximum volume of water and look for any sign of leakage. If there is no leakage, remove all the water from the balloon. Lubricate the tip of the tube. Ensure that the external bumper can be moved down the tube.

During storage, the bumper often becomes stuck to the tube; moving the bumper at this point will be much easier than moving it after inserting through the gastrostomy tube site.

Procedure

- Use an empty syringe to aspirate the water from the balloon port of the existing tube. Reaspirate, if necessary, to make sure that all the water has been removed
- Have a gauze pad ready to absorb any drainage, and then remove the tube
- Gently insert the new tube until it is a few centimeters past the centimeter mark for skin level noted on the previous tube (Figure 2)
- After removal of the old gastrostomy tube, the new tube is inserted and the balloon is inflated with water
- This step is recommended to ensure that the balloon will be inflated when it is in the stomach, not in the gastrocutaneous tract
- When the balloon tip is well into the stomach, inflate the balloon with water. Gently pull up on the tube until feeling of slight resistance from the inflated balloon against the inner gastric wall, then push the external bumper down, but not too tightly. Note that the patient should not feel pain when the balloon is filled with water; if the patient does feel pain, the tube may have been placed in a false passage instead of in the stomach
- It should be easy to spin the tube, and there should be a gap of approximately 2 to 3 mm between the skin and the bumper. If the outer flange is too tight, it may cause necrosis of the gastric mucosa. The centimeter marker at the top of the external bumper should be set to the same measure at which the marker on the old tube was set (assuming that the previous tube was not set too tightly and that the balloon was fully inflated)
- Confirm intragastric placement by aspirating gastric contents (Figure 3). Aspiration indicates that the tube is ready for use. If the new tube is placed without difficulty but are unable to aspirate gastric contents, connect the new tube to a drainage bag and allow drainage to occur through gravitational flow. If gastric contents appear in the bag within 20 minutes, intragastric placement can be considered confirmed. If no gastric contents appear in the bag in 20 minutes, intragastric placement should be confirmed on fluoroscopy after the administration of water-soluble contrast material. An oblique view should be obtained

Figure 3: Confirmation of Intragastric placement

Figure 4: Frontal radiograph of the abdomen, with false impression of correct tube placement

Complications

The most serious complication of gastrostomy tube exchange is the placement of the tip of the tube in a false passage within the subcutaneous tissue or in an intraperitoneal location rather than in the stomach. The administration of nutrition through a tube that is not in the stomach can be fatal. An abdominal radiograph, obtained after the administration of contrast material with the patient in the supine position, is often used to visualize the placement of nasogastric tubes, but this approach is not a reliable means of confirming intragastric placement. The radiograph shown in Figure 4 gives the impression of correct placement, but an oblique view of the same patient, obtained with the use of fluoroscopy after the administration of contrast material, would reveal that the contrast material is actually flowing into the stomach through a subcutaneous tract. The tube shown in Figure 4 was later repositioned for placement in the stomach with the use of a guidewire and fluoroscopy.

Summary

It is important for clinicians to be comfortable performing gastrostomy tube exchange. Understanding the procedure and its potential hazards should help to minimize the risk of complications.

Reference: *N Engl J Med May 1,2014; 370:e28*

Deafness and blindness: A rare presentation of meningeal carcinomatosis

A 60 years old woman presented with progressive loss of vision and deafness with recurrent simple partial seizures. This patient was treated for carcinoma breast for 13 years before this presentation. Magnetic resonance imaging brain and magnetic resonance angiography was normal. Cerebrospinal fluid analysis was inconclusive. Meningeal biopsy revealed metastatic deposits and malignant cells were positive for estrogen, progesterone, and HER2nu receptor. This case has some unique features in the form of involvement of optic and vestibulocochlear nerves together, primary site of malignancy was hidden, and diagnosis was made with meningeal biopsy.

This woman presented to a tertiary care hospital with history of involuntary movements of right leg for 14 months. She suffered multiple episodes per day lasting for 1-2 min. After 1 month of onset of involuntary movements, she developed loss of vision in left eye which slowly progressed to right eye. She was investigated elsewhere and was prescribed steroids with oxcarbazepine. Her vision did not show any improvement but it did not deteriorate either. She took steroids for 4 months and stopped as advised. One month after stopping steroids, she developed progressive hearing loss in both the ears. She was hypertensive and taking amlodipine for last 15 years. Patient also had history of right-sided carcinoma breast in 1994 which was treated with mastectomy and six cycles of chemotherapy but exact details were not available. Patient was in regular follow up with her oncologist till 2 years back.

On admission, she was conscious, oriented with normal higher mental functions. Visual acuity was restricted to finger counting at less than half meter. Bilateral pupils were normal in size and reacting to light. Fundus examination showed bilateral optic atrophy. Pure tone audiometry (PTA) showed profound hearing loss on right side and moderate sensorineural hearing loss on left side.

Speech discrimination scores were very low. A healthy scar of mastectomy was present on right side of chest and there was no swelling or induration. Rest of the physical examination was unremarkable. Our presumptive diagnosis was temporal arteritis, but temporal artery biopsy was already done outside and did not show any evidence of vasculitis.

Investigations showed hemoglobin of 14.2 gm/dL, total leukocyte count of 13,300/μL, platelet count of 540000/μL, and ESR of 90 mm in 1st hour. Liver and renal function tests were essentially normal. ANA, anti-double stranded deoxyribonucleic acid, complement, human immunodeficiency virus, HBsAg, and antihepatitis C virus were negative. Her chest radiograph, electrocardiogram, and echocardiography all were normal. CA15.3 was mildly elevated 49.7 U/mL (0-25 U/mL). Nerve conduction study of all four limbs was normal. Electroencephalography revealed background activity of 8-9 Hz with frequent sharp wave discharges (epileptiform abnormalities) arising from left temporal region. Magnetic resonance imaging (MRI) brain showed confluent hyperintense signals on T2/T2 fluid attenuated inversion recovery images surrounding the both lateral ventricles, most prominent in the posterior peritrigonal region (age-related changes). Cerebrospinal fluid (CSF) revealed red blood cells 50/cu mm, white blood cells 25/cu mm with 100% lymphocytes, elevated protein (580 mg/dL), normal sugar (208 mg/dL). CSF gram staining was negative and culture did not show any growth. Tuberculosis polymerase chain reaction and oligoclonal band were negative.

CSF cytology revealed scattered cells which showed moderate amount of cytoplasm with fraying of margins and irregular hyperchromatic nuclei with inconspicuous nucleoli (suggestive of histiocytes or neoplastic cells). Meningial biopsy (Figure 1) showed the meningeal surface layered with malignant cells having pleomorphic nuclei, prominent nucleoli, and abundant cytoplasm (arrow). The tumor cells were strongly positive for estrogen, (inset of Figure), progesterone, and HER2nu. Last, when computed tomography chest and abdomen was performed to see metastasis to other organs it showed mild irregular septal thickening suggestive lymphangitis carcinomatosis with skeletal metastasis with left pleural effusion.

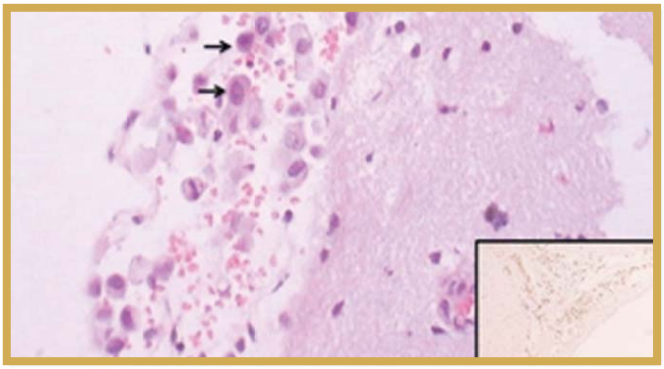


Figure 1: The meningeal surface layered with malignant cells having pleomorphic nuclei, prominent nucleoli, and abundant cytoplasm (arrow). (H and E, ×40). Inset the tumor cells are strongly positive for estrogen receptor staining (Immuno histocompatibility complex, ×10)

After final diagnosis of leptomeningeal carcinomatosis, patient wanted to follow-up with her previous oncologist and she was referred there.

Discussion

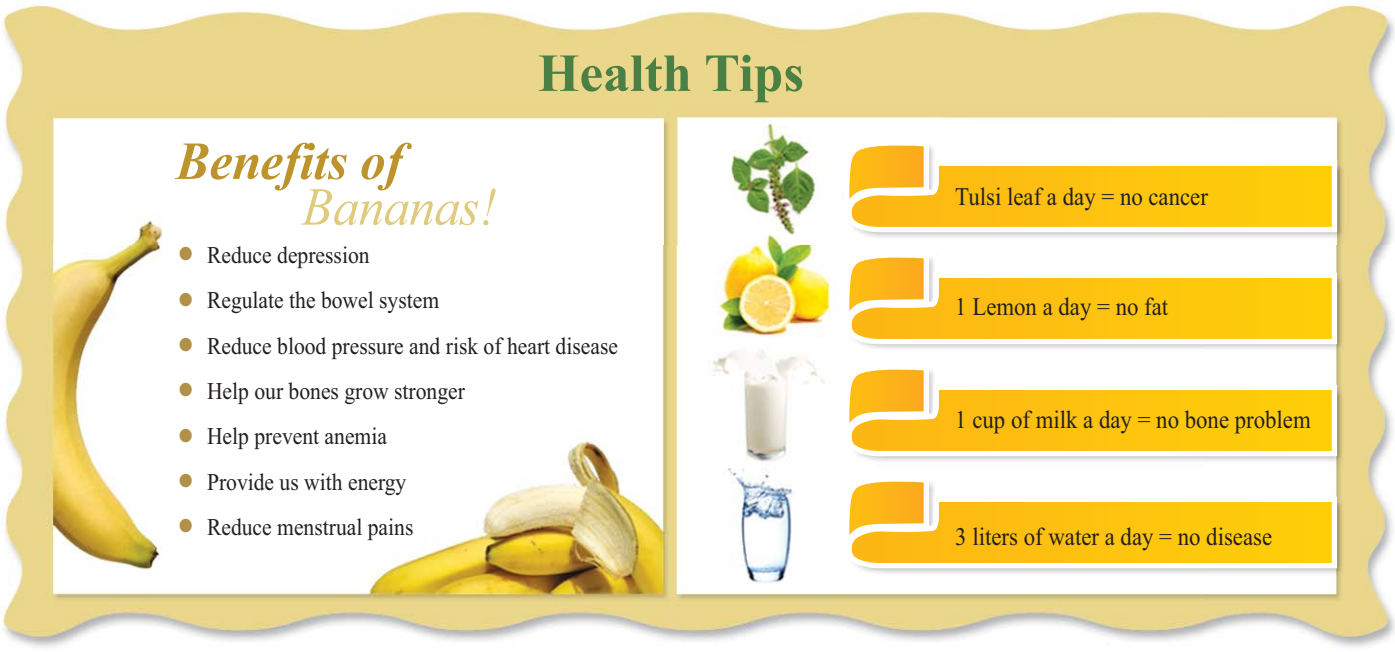
Meningeal carcinomatosis is characterized by diffuse or multifocal infiltration of leptomeninges by metastatic cells. This complication was first reported by Eberth in 1870. It is associated with myriad of presentations, which often make diagnosis difficult. Underlying malignancies are usually adenocarcinoma of the breast, lung or malignant melanoma. Most commonly involved cranial nerves are occulomotor, abducens, and trigeminal nerves in solid tumors and facial nerve in leukemic meningitis. There are only a few reports of deafness or blindness as presenting complaint of meningeal carcinomatosis. Our patient suffered both blindness and deafness and we could not find this type of presentation in literature.

Incidence of meningeal carcinomatosis is approximately 5% of patients with cancer, but it is increasing recently because of prolonged survival of carcinoma patients. This patient was treated for carcinoma breast many years ago and at this presentation, clinically there was no evidence of tumor in breast. Meningeal carcinomatosis presents in numerous ways, for example, cranial nerve palsies, cerebral signs, headache, spinal nerves involvement, mental changes, limb weakness, ataxia, meningism, sensory abnormalities, nausea-vomiting, cerebellar signs, seizures, dizziness, and autonomic dysfunction. Metastatic cells can infiltrate cerebrum, meninges, cranial nerves, or spinal cord and produce clinical features accordingly. Deafness due to meningeal carcinomatosis was first described by Saenger in 1900; Since then less than 20 cases have been published. Blindness in these patients is thought to be due to meningeal tumor cuffing in the subarachnoid space around the optic nerves and rarely because of direct infiltration of the nerve by tumor cells. Meningeal carcinomatosis is not a common differential in a patient who presents with deafness and blindness. MRI of this patient showed only age-related changes and there was no evidence of metastasis. MRI has a sensitivity of about 70% which may demonstrate thickening of nerve roots, subependymal or pachymeningeal enhancement, or multiple enhancing nodular deposits. A normal MRI does not exclude meningeal carcinomatosis. This patient's CSF examination gave some clue in the form of rare scattered cells with moderate amount of cytoplasm with fraying of margins and irregular hyperchromatic nuclei. CSF usually represents inflammatory meningitis, consisting of lymphocytic pleocytosis elevated protein level and normal or low glucose. CSF cytology results are positive in 50% of cases after a single lumbar tap and in 85%-90% of cases after multiple taps. In present case, diagnosis could be established only after meningeal biopsy.

There are no standard treatment guidelines available for this complication. Intravenous administration of conventional doses of several drugs cannot adequately penetrate into CSF; therefore, high doses of systemically administered methotrexate, cytarabine, or thiotepa are required to yield therapeutic concentration in spinal fluid. Intrathecal chemotherapy can be administered either by lumbar puncture or intraventricularly through an Ommaya implanted subcutaneous reservoir.

To conclude, meningeal carcinomatosis can present with any combination of cranial nerve paralysis. One should consider leptomeningeal biopsy and histopathological examination if cause of chronic meningitis is not clear.

Reference: *CHRISMED Journal of Health and Research. 2014; 1(1): 59-60*



WHO: Bangladesh is polio-free

Bangladesh has received the World Health Organization (WHO) certificate of "polio-free country", making it one of the 10 nations in South Asia to have eradicated the disease. The Deputy High Commissioner of Bangladesh in Mumbai, received the certificate during an official ceremony held on 3 March. The state government, the WHO, and Rotary International organized the event.

Through a robust national immunization program - Bangladesh's Expanded Immunisation Programme (EPI) - the country has been freed of the disease since 2003, even though the last cases ever were registered in 2006. All of these, however, were the result of viral contamination in India. Prior to 2006, Bangladesh reported one case of polio in 2000, 29 in 1999, 10 in 1998, five in 1997 and 16 in 1996.

The support of many local health care providers was vital. They assisted government agencies in awareness raising campaigns, even door to door. This has meant that many parents, regardless of their economic status, brought their children directly to vaccination centres.

The WHO's Bangladesh representative, explains that the certificate will not stop vaccination and immunization, although the special programs (which take place twice a year, in addition to routine initiatives) may change. This, however, said WHO medical officer, "can only happen when the neighboring countries do not represent a threat of contagion".

By 2015 Dhaka would like to introduce the polio vaccine intravenously (IPV) rather than oral.

With the certificate given to Bangladesh, the WHO has declared that the entire Southeast Asian region polio free. Along with Dhaka, a further 10 countries in the area have received the same certificate this year: India, Bhutan, Sri Lanka, Maldives, Myanmar, Thailand, Indonesia, East Timor and North Korea. This means that 80% of the world population lives in areas that are free from possible infection. The last three countries in the world where polio is endemic are Afghanistan, Pakistan and Nigeria.

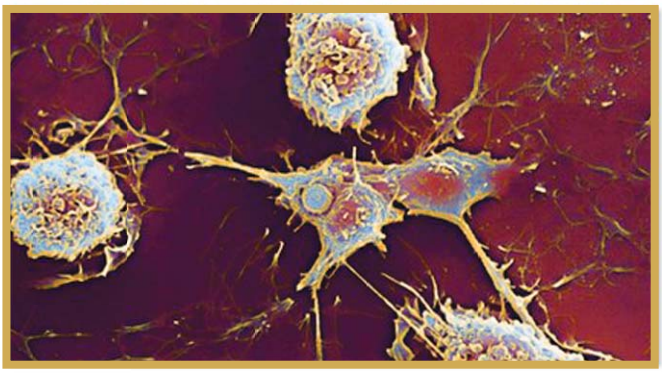
Reference: *asianews.it/news-en*

Multiple sclerosis discovery may explain gender gap

Scientists at Washington University School of Medicine in the US found higher levels of protein S1PR2 in tests on the brains of female mice and dead women with Multiple Sclerosis (MS) than in male equivalents. Four times more women than men are currently diagnosed with MS.

MS affects the nerves in the brain and spinal cord, which causes problems with muscle movement, balance and vision. It is a major cause of disability, and affects about 100,000 people in the UK. Abnormal immune cells attack nerve cells in the central nervous system in MS patients. There is currently no cure, although there are treatments that can help in the early stages of the disease. Researchers in Missouri looked at relapsing remitting MS, where people have distinct attacks of symptoms that then fade away either partially or completely. About 85% of people with MS are diagnosed with this type.

Scientists studied the blood vessels and brains of healthy mice, mice with MS, and mice without the gene for S1PR2, a blood vessel receptor protein, to see how it affected MS severity. They also looked at the brain tissue samples of 20 people after they had died. They found high levels of S1PR2 in the areas of the brain typically damaged by MS in both mice and people. The activity of the gene coding for S1PR2 was positively correlated with the severity of the disease in mice, the study said. Scientists said S1PR2 could work by helping to make the blood-brain barrier, in charge of stopping potentially harmful substances from entering the brain and spinal fluid, more permeable.



A professor, of the Washington University School of Medicine, said that they were very excited to find the molecule, as they wanted to find a target for treatment that didn't involve targeting the immune cells. This link between MS and S1PR2 is completely new - it has never been found before. Another professor said that she did not know why the levels of S1PR2 were higher in women with MS, and adding that she had found oestrogen had "no acute role". She would be looking at taking her findings to clinical trials in the "next few years", she added.

Reference: *bbc.co.uk*

Two meals a day 'effective' to treat type 2 diabetes

Only eating breakfast and lunch may be more effective at managing type 2 diabetes than eating smaller, more regular meals, scientists say. About 2.9 million people in the UK are affected by diabetes, 90% of whom have the type 2 form of the disease. Current advice in the UK recommends three meals a day, with healthy snacks.

Scientists at the Institute for Clinical and Experimental Medicine in Prague divided a group of 54 volunteers aged 30 to 70 with type 2 diabetes into two groups of 27 people. They fed two groups of 27 people the same calorie diet spread over two or six meals a day. Volunteers were given either a six-meal-a-day diet (A6) for 12 weeks followed by a two-meal day diet (B2), or vice versa. The study compared two meals with six meals - as the latter accorded with current practice advice in the Czech Republic, researchers said. Each diet contained on average 1,700 calories a day. The B2 group ate between 06:00 and 10:00 and then between 12:00 and 16:00, and the A6 group ate their food throughout the day. Weight loss for the B2 group averaged 1.4kg (3lb) more than A6, and they lost about 4cm (1.5in) more from their waistlines. So it indicated that the volunteers who ate two meals a day lost more weight than those who ate six, and their blood sugar dropped.

Lead scientist of Institute for Clinical and Experimental Medicine, said that the results were very pleasing. She said that the patients were really afraid they would get hungry in the evening but feelings of hunger were lower as the patients ate until they were satisfied. But when they ate six times a day the meals were not leaving them feeling satisfied. It was quite surprising. A renowned researcher said the study could apply to people without diabetes who were trying to lose weight. Research communications officer at Diabetes UK, said the study added to evidence that eating fewer, larger meals a day could be more effective than smaller, frequent meals at helping people manage their condition. He added that however, larger studies over longer periods of time will be needed to back up these findings before we would make changes to the dietary advice given to people with type 2 diabetes.

Reference: *bbc.co.uk*

Anti-depressants 'could slow onset of Alzheimer's disease'

Alzheimer's disease is the most common cause of dementia, affecting around 496,000 people in the UK. It affects the brain through protein plaques and tangles which lead to the death of brain cells, and a shortage of chemicals important for transmitting messages.

Scientists in the US said an anti-depressant drug could be used to slow the onset of Alzheimer's disease. Research into 23 people, and transgenic mice, found citalopram hampered a protein which helps to build destructive plaques in the brains of Alzheimer's patients. Scientists said they hoped the study could help prevent the disease. Experts said the study was "interesting" and that using an approved drug could be beneficial. Researchers at the University of Pennsylvania and Washington University School of Medicine carried out the study between 2012 and 2014. They bred mice with Alzheimer's disease and looked at the levels of the peptide - or protein component - amyloid beta (AB), in the brain. AB clusters in plaques which, alongside the tau protein, are thought to trigger Alzheimer's.

After giving the mice citalopram, the level of AB fell by 25%, compared to the control group, with no anti-depressant and after two months of anti-depressants, the growth of new plaques was reduced, and existing plaques did not grow any further. But it noted the drug could not cause existing plaques to shrink, or decrease in number. The 23 people used in the study were aged between 18 and 50 and were healthy. They were given a single dose of citalopram, and the levels of AB in their cerebrospinal fluid was monitored. Researchers said AB levels dropped by 38% in the 37 hours period after treatment, compared to a placebo test.

Lead author of the University of Pennsylvania, said the antidepressants worked by "clipping" the AB molecules so they were not able to function properly. She said that we had predicted the results, but they were very exciting. A scientist stressed the study was a "proof of concept" study, hence the small number of people without Alzheimer's, and that if the results were successful, they could be used to slow the progression of the disease 10 to 15 years before it could typically become apparent. She added that she was eager to get on to the next study, where they will look at whether the effect can be sustained.

Reference: *bbc.co.uk*

Problem 1

A 56 years old woman presented to emergency care center with a lump in the arch of her right foot which she stated had been slowly progressing in size over the past several months. She further noted experiencing pain on ambulation that had been unresponsive to over-the-counter nonsteroidal anti inflammatory drugs (NSAIDs).

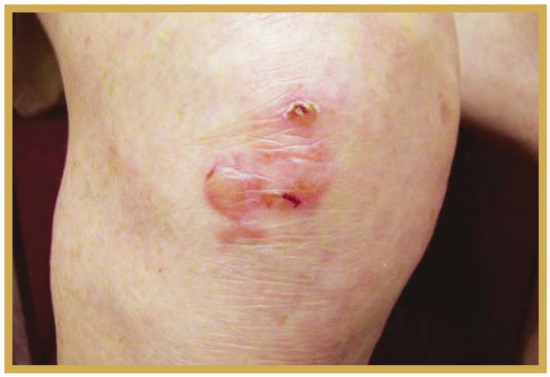
Physical examination of the affected foot revealed an ovoid-shaped lump on the medial band of the plantar fascia measuring approximately 1.5 cm x 0.8 cm. Moderate palpation elicited pain. There was no surrounding erythema or edema, and the lump was nonmobile, adherent to the fascia, and accentuated on dorsiflexion of the hallux.

What is the diagnosis?

Problem 2

A 77 years old man presented to emergency care center with a three weeks history of a blistering, intensely pruritic, and sometimes burning rash bilaterally on the extensor surfaces of his arms and legs, which he correlated to recent beer intake. His past medical history was positive for decades of similar outbreaks that had been controlled with oral dapsone, which he recently discontinued for unspecified reasons. He denied any gastrointestinal complaint. Physical examination revealed scattered vesicles and bullae of the affected areas; no similar lesions were noted elsewhere.

What is the diagnosis?



Problem 3

A 58 years old woman requested removal of a growth on her left eyelid. She stated that the lesion, which she first noted several months ago, had been slowly enlarging and, because of the location, is now causing her to "see double."

She denied antecedent trauma, associated pain, drainage, or bleeding. Examination revealed a smooth, dome-shaped, flesh-colored, translucent papule 3.5 mm in diameter. The growth was freely movable on palpation. No similar appearing lesions were noted elsewhere. Puncture with a #11 blade resulted in drainage of a strawcolored, serosanguinous fluid.

What is the diagnosis?

Please see the answers Page 16

Oral manifestations of tuberculosis

Tuberculosis (TB) is still among the most life-threatening infectious diseases, resulting in high mortality in adults. A significant proportion of patients (15-25%) exist in whom the active TB infection is manifested in an extrapulmonary site. Healthcare workers are at the frontline and can make an important contribution to the control of this infectious epidemic. Oral TB has been considered to account for 0.1-5% of all TB infections. Nowadays, oral manifestations of TB are re-appearing alongside many forgotten extrapulmonary infections as a consequence of the outbreak and emergence of drug-resistant TB and of the emergence of acquired immune deficiency syndrome.

Introduction

World Health Organization (WHO) estimates that the largest number of new tuberculosis (TB) cases in 2008 occurred in the South-East Asia region, which accounted for 34% of incident cases globally. However, the estimated incidence rate in Sub-Saharan Africa is nearly twice that of the South-East Asia region with over 350 cases per 100,000 populations. Incidence of TB is increasing in developing as well as developed countries because of migrant population.

Figure 1: Ulcer in buccal vestibule

Increasing incidence of HIV infection, lack of public health efforts to control TB after its elimination, poverty, and emergence of multidrug resistant - tuberculosis (MDR-TB) are the reasons of increase in TB incidence in developed countries. TB is still among the most life-threatening infectious diseases, resulting in high mortality in adults. With an incidence of 139 per 100,000 (in 2007) active Mycobacterium TB infections globally, it is estimated that two billion people (i.e., one-third of the world's population) have been in contact with the TB bacillus. A significant proportion of patients (15-25%) exist in whom the active TB infection is manifested in an extrapulmonary site. Moreover, the emergence of drug-resistant TB has recently raised serious concerns. TB is a frequent cause of missed or complicated diagnosis in general medical settings.

Oral manifestation

TB oral lesions are a relatively rare occurrence. Studies vary, but the incidence has usually been reported as less than 1% of the TB population. Saliva is believed to have a protective effect, which may explain the paucity of TB oral lesions, despite the large numbers of bacilli contacting the oral cavity mucosa in a typical case of pulmonary tuberculosis. Other factors that attribute to relative resistance of oral cavity for TB are presence of saprophytes, resistance of striated muscles to bacterial invasion, and thickness of protective epithelial covering. It is believed that the organisms enter the mucosa through a small break in the surface. Local factor that may facilitate the invasion of oral mucosa includes poor oral hygiene, leukoplakia, local trauma, and irritation by clove chewing, and so on. Self-inoculation by the patient usually results from infected sputum or by hematogenous or lymphatic dissemination.

Oral TB lesions: primary or secondary

Primary lesions are uncommon, seen in younger patients, and present as single painless ulcer with regional lymph node enlargement. The secondary lesions are common, often associated with pulmonary disease, usually present as single, indurated, irregular, painful ulcer covered by inflammatory exudates in patients of any age group but relatively more common in middle-aged and elderly patients.

Oral TB may occur at any location on the oral mucous membrane, but the tongue is most commonly affected. Other sites include the palate, lips, buccal mucosa, gingiva, palatine tonsil, and floor of the mouth. Salivary glands, tonsils, and uvula are also frequently involved. The retromolar region is rarely involved.

Identification

The identification of a TB lesion in any location in the mouth is an unusual finding and its discovery is usually indicative of underlying pulmonary disease. Therefore, in all cases of oral cavity TB, search for primary site of the disease should always be considered even in the absence of any signs and symptoms.

The oral manifestations of TB can also be in the form of superficial ulcers, patches, indurated soft tissue lesions, or even lesions within the jaw that may be in the form of TB osteomyelitis or simple bony radiolucency. Of all these oral lesions, the ulcerative form is the most common.

It is often painful, with no caseation of the dependant lymph nodes. Oral lesions of TB are nonspecific in their clinical presentation and often are not considered in differential diagnosis, especially when oral lesions are present before systemic symptoms become apparent. Primary gingival involvement is more common in children and adolescents than adults. It usually presents as a single painless indolent ulcer, which progressively extends from the gingival margin to the depths of the adjacent vestibule and is often associated with enlarged cervical lymph nodes. They may be single or multiple, painful or painless and usually appear as irregular, well-circumscribed ulcer with surrounding erythema without induration and satellite lesions are commonly found.

When oral TB occurs as a primary lesion, an ulcer is the most common manifestation usually developing along the lateral margins of the tongue which rest against rough, sharp, or broken teeth or at the site of other irritants. Patients with oral tubercular lesions often have a history of preexisting trauma.

Deep tubercular ulcers of the tongue are typical in appearance with a thick mucus material at the base. These tongue lesions are characterized by severe unremitting and progressive pain that profoundly interferes with proper nutrition and rest. Classically, tubercular ulcers of the tongue may involve the tip, lateral margins, dorsum, the midline, and base of the tongue. They are irregular, pale, and indolent with inverted margins and granulations on the floor with sloughing tissue.

Differential diagnosis

Oral cavity TB is difficult to differentiate from other conditions on the basis of clinical signs and symptoms alone. While evaluating a chronic, indurated ulcer, clinicians should consider both infectious process such as primary syphilis and deep fungal diseases and noninfectious processes such as chronic traumatic ulcer and squamous cell carcinoma in the list of differential diagnosis. If there is no systemic involvement, one should go for excisional biopsy for tissue diagnosis and bacteriologic examination with culture for a definitive diagnosis. The efficiency of demonstration of acid fast bacilli in histological specimens is low, as there is relative scarcity of tubercle bacilli in oral biopsies.

According to various studies only a small percentage (7.8%) of histopathology specimens stain positive for acid fast bacilli. Therefore, a negative result does not rule out completely the possibility of TB. Another concern is the occurrence of mycobacterial infection as a part of AIDS. Histologically, an immunocompromised patient may not show granuloma or caseation. This poses, a potential problem in diagnosing TB. HIV-1associated TB is reaching epidemic proportions in many African countries. The prevalence and incidence of TB is similar in both HIV-positive and HIV-negative individuals, but the risk of active TB was elevated only for seropositive subjects. Increasing problems with TB may well continue because of the continuing emergence of MDR strains of M. TB, which is a major threat, particularly with HIV- and AIDS-infected patients, among whom, mortality rates are high. With the increasing number of TB cases, unusual forms of the disease in the oral cavity are more likely to occur and be misdiagnosed. Although rare, doctors and dentists should be aware of the oral lesions of TB and consider them in the differential diagnosis of suspicious oral ulcers (Figure 1 & 2). TB of the oral cavity frequently simulates cancerous lesions and others like traumatic ulcers, aphthous ulcers, actinomycosis, syphilitic ulcer, or Wegener's granuloma.

Diagnosis

The history reported by the patient and the clinical and radiological examination play an important part in the diagnosis of TB. However, laboratory confirmation is most essential for the diagnosis, with culture of microorganisms taken as the absolute proof of the disease. A biopsy of an oral lesion is confirmatory but in majority of the cases, a single biopsy may not suffice because the granulomatous changes may not be evident in early lesions. The lesion is eventually disclosed by repeat biopsies. Most often complete remission of tubercular ulceration of the tongue takes place after standard antitubercular chemotherapy using antibiotics such as isoniazide, rifampicin, pyrazinamide, and ethambutol for 6 months.

Figure 2: Tuberculous ulcer on tongue

Conclusion

Though rare, TB should be included in the differential diagnosis of chronic ulcers of the tongue. However, the mere diagnosis of such lesions is not sufficient and a persistent follow up is of equal, if not more, importance. Identification of TB is of significance not only to the patient himself, but also to the dental team that comes in contact and the community at large, where the patient can be a potential source for spread of infection.

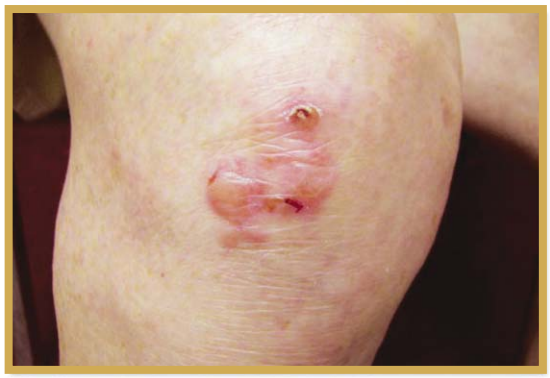
Reference: *CHRISMED Journal of Health and Research. Jan-Apr 2014;1(1)*

Answer 1

A plantar fibroma is a benign nodule of unknown etiology affecting the arch of the foot. Most cases are nontraumatic and originate in the deep fascia of the foot abutting the muscle. Lesions are firm and may be painful upon application of pressure. Most instances are solitary; multiple lesions may be hereditary and with variable penetrance. Initial management of symptomatic fibromas consists of off-loading with shoe padding or custom inserts, along with NSAID therapy to reduce inflammation. Intra-lesional steroid injections may also be beneficial in the initial stages. Due to the high incidence of recurrence, surgery is usually reserved for refractory cases.

Answer 2

Dermatitis herpetiformis (DH) is an autoimmune disorder linked to the ingestion of gluten and is associated with gluten sensitive enteropathy (celiac disease). The condition is associated with human leukocyte antigens DQ2 and DQ8, the highest prevalence of which is seen in men of Northern European descent. Patients with DH develop intensely pruritic papules and vesicles of the extensor surfaces, scalp, and buttocks after ingesting gluten. Biopsy of these lesions reveals IgA deposits. A strict gluten free diet is the cornerstone of therapy, though adherence often proves difficult for many patients. Dapsone provides rapid relief of pruritus and skin lesions.



Answer 3

Apocrine hidrocystoma is an uncommon benign tumor that arises from the secretory portions of apocrine glands. The most common site is on the eyelid, where these tumors present as skin-colored, reddish-brown, or bluish papules that slowly expand and persist indefinitely. Less frequent sites of involvement include the axilla and penis. Some may attain a size of over 1.0 cm. Differential diagnosis includes epidermoid cyst and basal cell carcinoma. Asymptomatic, the majority are removed for cosmetic reasons. Incision and drainage collapses the growth but may lead to recurrence due to persistence of the cyst wall. Scissors excision under local anesthesia is curative.

Reference: *www.emed-journal.com*

Management of cervical cancer : Summary of SIGN Guidelines

Despite a well organized cervical screening program for pre invasive disease in the United Kingdom, there are still about 2800 new cases of and 1000 deaths from cervical cancer each year. The Joint Committee for Vaccination and Immunization has announced the introduction of human papillomavirus vaccination for 12-13 year old girls next year, but it is predicted that it may take 40 to 60 years for an effect on the rates of cervical cancer to be seen.

This article summarizes the most recent guidance from the Scottish Intercollegiate Guidelines Network (SIGN) on the management of cervical cancer.

Recommendations

SIGN recommendations are based on systematic reviews of best available evidence, and the strength of the evidence is indicated as A, B, C, or D (Table 1). Recommended best practice "good practice points" based on the clinical experience of the guideline development group is also indicated (as GPP).

Presentation

Inter-menstrual bleeding, post-coital bleeding, and post- menopausal bleeding are common and non specific symptoms and may be associated with cervical cancer or infection.

- Test women with these symptoms for Chlamydia and treat if appropriate (D)
- If malignancy is suspected on examination, women should be referred urgently for further investigation (GPP)
- Investigate post-coital bleeding as recommended in table 2 (D, GPP)
- Unscheduled smears are not recommended out with the screening program (GPP)

After diagnosis of invasive cervical cancer

- Refer all women to a multidisciplinary team for optimal management (GPP)
- Multidisciplinary team working should ensure a consistent and equitable approach to planning and managing care (GPP)
- Include specialist radiological review in multidisciplinary team assessment (GPP). This is essential for determining the most appropriate management, both at primary presentation and with relapsed disease or complications of treatment

Table 1: Explation of SIGN grades of recommendations

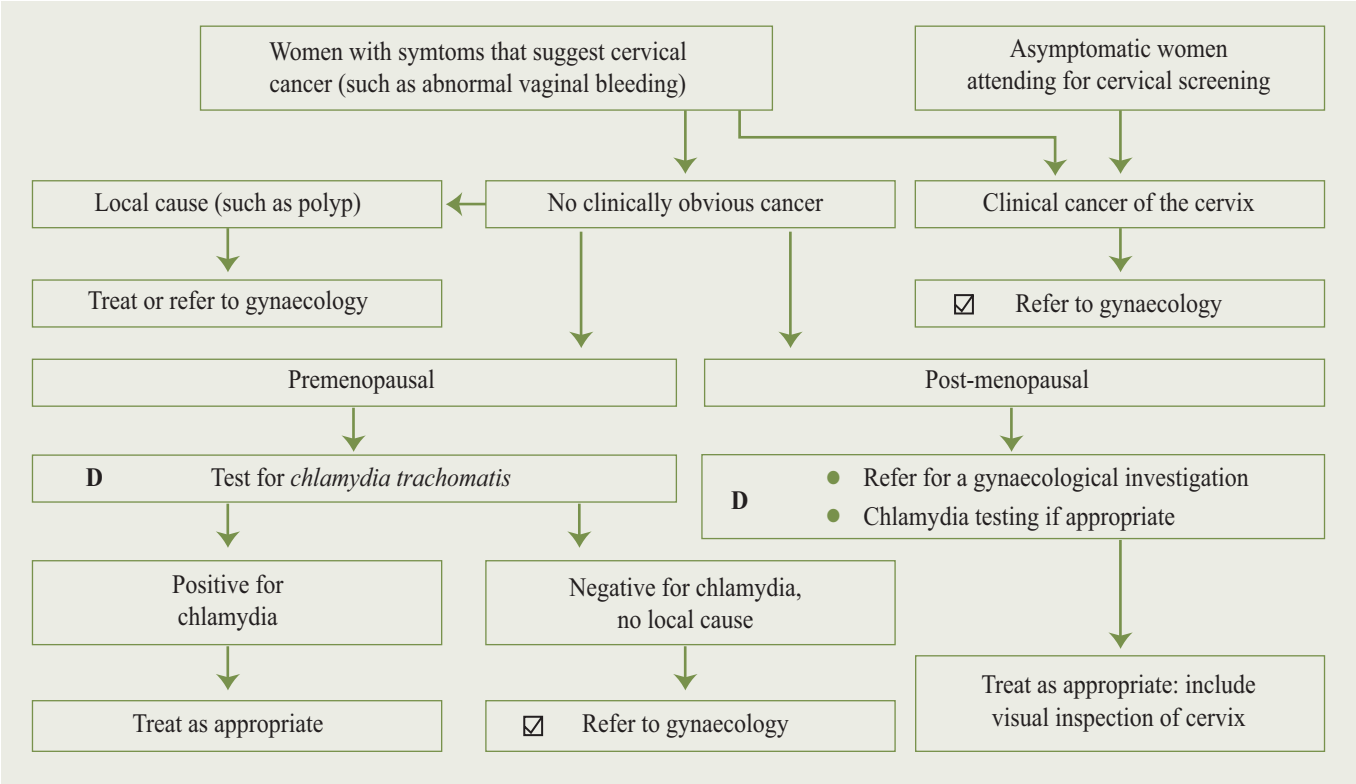
	The grade of recommendation relates to the strength of the supporting evidence on which the evidence is based. It does not reflect the clinical importance of the recommendation.
A	• At least one high quality meta-analysis, systematic review of randomised controlled trials, or randomised controlled trial with a very low risk of bias and directly applicable to the target population
B	• A body of evidence including studies rated as high quality systematic reviews of case-control or cohort studies, and high quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relation is causal and which are directly applicable to the target population, and with overall consistency of results; or • Extrapolated evidence from studies described in A
C	• A body of evidence including well conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relation is causal and which are directly applicable to the target population and with overall consistency of results; or • Extrapolated evidence from studies described in B
D	• Non-analytic studies, such as case reports, case series, expert opinion; or • Extrapolated evidence from studies described in C
	Good Practice Points (GPP)
☑	Recommended best practice based on the clinical experience of the guideline development group

- For women with visible cervical carcinoma confirmed with biopsy except women whose disease is classified by the International Federation of Gynecology and Obstetrics (FIGO) as stage IV-perform magnetic resonance imaging (B). Consider computed tomography for those with FIGO stage IV disease and those not suitable for magnetic resonance imaging (B). In women not suitable for surgery because of the extent of their disease, consider positron emission tomography to identify unsuspected para aortic lymph node metastases, which may modify their treatment (C). Computed tomography and magnetic resonance imaging are as accurate as intravenous urography in determining ureteric obstruction and give additional information, thus superseding the role of urography as a standalone investigation (C)
- Offer surgical options, where appropriate, to women with operable disease who wish to preserve their fertility; such surgery would include radical trachelectomy (vaginal resection of the cervix and the upper 1-2 cm of the vaginal cuff), cold knife conisation (removal of a cone shaped sample of tissue from the cervix), or large loop excision of the transformation zone (C, D)
- Offer concurrent chemoradiotherapy with a platinum based chemotherapy to women whose disease is classed as one of the FIGO stages IB2 to IVA (A), with brachytherapy as an essential component (D). Surgery is not offered to this group of women because of the significant risk of positive margins and positive nodes. While women are having chemotherapy, monitor their haemoglobin concentrations and correct these as necessary (C)
- Offer hormone replacement therapy to women who have lost ovarian function (C)
- No evidence exists that pregnancy accelerates cervical cancer. Treatment may be delayed in early stage disease (FIGO stage IA or IB) to allow fetal maturity (C). Fetal maturity and mode and timing of delivery should be assessed in consultation with an obstetrician (GPP). Make treatment decisions as for non pregnant patients (C)

Follow up

Offer follow up every four months for at least two years after treatment (GPP). Although three case series show that routine follow up does not have a high sensitivity for detecting recurrent disease, 5-7 it may have other benefits, such as detection of treatment complications and psychosexual and psychosocial morbidity

Table 2: Investigation of post - coital bleeding



Reference: *BMJ/5 January 2008/Volume 336*

Jog your memory

Please select the correct answer by (√) against a, b, c, d of each question in the Business Reply Card and send it through our colleagues or mail within 16 August, 2014; this will ensure eligibility for the Raffle Draw and the lucky winners will get attractive prizes !

1. **Hypomagnesaemia may be caused by which of the following drugs?**
   a. Aminophylline
   b. Cisplatin
   c. Co-trimoxazole
   d. Digoxin

2. **Metabolic alkalosis is characteristically found in which of the following?**
   a. An infusion of sodium chloride
   b. Ileostomy
   c. Mineralocorticoid deficiency
   d. Pyloric stenosis

3. **Which of the following is activated by Cholera toxin?**
   a. Adenylate cyclase
   b. Guanlyate cyclase
   c. Peroxisome proliferator receptor (PPAR) gamma
   d. Sodium/potassium ATPase

4. **Which of the following infections is least likely to cause myocarditis?**
   a. Coxsackie virus
   b. Diphtheria
   c. Chagas Disease
   d. Syphillis

5. **Lipoprotein lipase deficiency is associated with:**
   a. Abetalipoproteinaemia
   b. Combined hyperlipidaemia
   c. Familial combined hyperlipidaemia
   d. Marked Hypertriglyceridaemia

6. **Which of the following is a characteristic feature of familial hypercholesterolaemia?**
   a. Autosomal dominant inheritance
   b. Elevated chylomicrons
   c. Hypertriglyceridaemia
   d. Increased expression of LDL receptors

7. **A 35 years old male presents with weakness and tiredness. He is noted to be hyertensive. Electrolytes show a hypokalaemia and a hypomagnesaemia. What investigation would you select for this patient?**
   a. Colonoscopy
   b. Plasma renin to aldosterone ratio
   c. Serum amylase
   d. Oral glucose tolerance test

8. **A 33 years old female is admitted with erythema multiforme and erythematous lesions of the mouth and eyes. Which one of the following drugs may account for her presentation?**
   a. Diazepam
   b. Mebeverine
   c. Oral contraceptive
   d. Sulphasalazine

9. **A 50 years old male presents with a 12 months history of deteriorating memory. He has otherwise been well and takes no medication. Which one of the following is most typical of frontal lobe dysfunction?**
   a. Inability to draw a clock face
   b. Inability to generate a list rapidly
   c. Inability to perform serial 7s.
   d. Sensory inattention

10. **A 62 years old man is found to have squamous cell carcinoma of the lung after being investigated for haemoptysis. Which one of the following would be a contraindication to surgical resection?**
    a. Finger clubbing
    b. Hypercalcaemia
    c. Hypertrophic pulmonary osteoarthropathy
    d. Pleural effusion

Info Quiz Participants

- Have you selected the correct answer (s).
- You still have time (Last date - 16 August 2014) to put your entry submission together for Info Quiz Prize.
- We look forward to receiving your winning entry.

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