

Infectio[®] Surgery

A Quarterly Magazine

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Current News

FDA Bans Powdered Gloves in Surgery

The US FDA has banned the use of powdered gloves in medicine as they are danger to human health. Professional societies have advocated for a ban, and many large health systems have already either restricted or completely ended the use of such products as have a majority of individual clinicians.

Powder used within all types of gloves has been associated with severe airway inflammation, hypersensitivity reactions, allergic reactions (including asthma), lung inflammation and damage, granulomas, and peritoneal adhesions. Respiratory allergic reactions can also result from proteins in aerosolized glove powder, the FDA notes.

“While medical gloves play a significant role in protecting patients, healthcare providers, and other individuals in close proximity, powdered gloves are very dangerous for a variety of reasons,” the FDA said in a statement.

According to the agency, non-powdered alternatives to both surgeons and patient examination gloves are available that provide similar protection, dexterity, and performance but without any of the risks associated with powdered gloves.

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Welcome Aboard



We feel honored to welcome Prof. Dr. Asif Zafar Malik as our International Editorial Board member. He is the Founder member and Former President e-Health Association of Pakistan. Currently he is associated with Al-Nafees Medical College, Islamabad and as Consultant Urologist at Milton Keynes University Hospital, Milton Keynes, UK. He is the President, Society of Surgeons, Pakistan – Rawalpindi-Islamabad Chapter. His special areas of interest are Endocrine and Minimal Access Surgery. He has more than 80 Publications in the field of Surgery & Telemedicine and is author of book “Color Atlas of Surgery” and “Minimal Access Surgery Training Manual”. His Academic appointments include: Professor of Surgery, Rawalpindi Medical College, Project Director Telemedicine/E-Health Training Center and MIS Virtual Training Lab, Holy Family Hospital, Rawalpindi. He is Focal Person for MOIT, Rural Telemedicine Support Program. He is currently involved in National Minimal Access Surgery Training program: A structured program to train Surgeons from all over Pakistan in Laparoscopic surgery utilizing latest simulation and Hands on training in the MIS Virtual lab.



Emergency Wound Management for Healthcare Professionals

Summarized by:

Dr. Kauser Rehman

Consultant Surgeon, South City Hospital Karachi



The risk for injury during and after a natural disaster is high. Due to suddenness of the situation, people fail to apply the appropriate measures that can protect them from illness and suffering. With little focus and attention, such fatalities can be easily managed on a short span of time.

These principles can assist with wound management and aid in the prevention of amputations. In the wake of a flood or other disaster resources are limited. Following these basic wound management steps can help prevent further medical problems.

Evaluation

- Ensure that the scene is safe for you to approach the patient, and that if necessary; it is secured by the proper authorities (police, fire, civil defense) prior to patient evaluation.
- Observe universal precautions, when possible, while participating in all aspects of wound care.
- Obtain a focused history from the patient, and perform an appropriate examination to exclude additional injuries.

Treatment

- Apply direct pressure to any bleeding wound, to control hemorrhage. Tourniquets are rarely indicated since they may reduce tissue viability.
- Examine wounds for gross contamination, devitalized tissue, and foreign bodies.
- Remove constricting rings or other jewelry from injured body part.
- Cleanse the wound periphery with soap and sterile water or available solutions, and provide anesthetics and analgesia whenever possible.
- Irrigate wounds with saline solution using a large bore needle and syringe. If unavailable, bottled water is acceptable.
- Leave contaminated wounds, bites, and punctures open. Wounds that are sutured in an

unsterile environment, or are not cleansed, irrigated, and debrided appropriately, are at high risk for infection due to contamination. Wounds that are not closed primarily because of high risk of infection should be considered for delayed primary closure by experienced medical staff using sterile technique.

- Remove devitalized tissue and foreign bodies prior to repair as they may increase the incidence of infection.
- Clip hair close to the wound, if necessary. Shaving of hair is not necessary, and may increase the chance of wound infection.
- Cover wounds with dry dressing; deeper wounds may require packing with saline soaked gauze and subsequent coverage with a dry bulky dressing.
- If wound infections develop, see **"Guidance for Management of Wound Infections"** (see below).
- Follow tetanus prophylaxis guidelines for all wounded patients.
- Follow tetanus prevention guidelines. Tetanus is a potential health threat for persons who sustain wound injuries. Tetanus is a serious, often fatal, toxic condition, but is virtually 100% preventable with vaccination. Any wound or rash has the potential for becoming infected and should be assessed by a health-care provider as soon as possible.

Other Considerations

- Be vigilant for the presence of other injuries in patients with any wounds.
- Ensure adequate referral, follow-ups, and reevaluations whenever possible.
- Dirty water, soil and dirt can cause infection. Wounds can become contaminated by even very tiny amounts of dirt.
- Puncture wounds can carry bits of clothing and debris into wound resulting in infection.



- Crush injuries are more susceptible to infection than wounds from shearing forces.

Guidance for Management of Wound Infections

Most wound infections are due to *Staphylococci* and *Streptococci*. This would likely hold true even in the post-hurricane setting.

- For initial antimicrobial treatment of infected wounds, beta-lactam antibiotics with anti-staphylococcal activity (cephalexin, dicloxacillin, ampicillin/sulbactam etc.) and clindamycin are recommended options.
- Of note, recently an increasing number of community associated skin and soft tissue infections appear to be caused by methicillin-resistant *Staphylococcus aureus* (MRSA). Infections caused by this organism will not respond to treatment with beta-lactam antibiotics and should be considered in patients who fail to respond to this therapy. Treatment options for these community MRSA infections include trimethoprim-sulfamethoxazole (oral) or vancomycin (intravenous). Clindamycin is also a potential option, but not all isolates are susceptible.
- Incision and drainage of any subcutaneous collections of pus (abscesses) is also an important component of treating wound infections.

Special Considerations Related to Contamination of Wounds by Water

Contamination of wounds with water (fresh or sea water) can lead to infections caused by waterborne organisms. Though infections with these organisms are uncommon, even after floods, this possibility should be considered in patients who fail to respond to initial therapies described above. Water-borne organisms often implicated in these infections include: *Aeromonas* spp., non-cholera *Vibrio* spp. and sometimes *Pseudomonas* or other

Gram-negative rods.

Trimethoprim / sulfamethoxazole, amoxicillin / clavulanate and newer fluoroquinolones (levofloxacin, moxifloxacin, gatifloxacin) will treat *aeromonas* and the fluoroquinolones will also treat *Pseudomonas* and many other Gram-negative pathogens.

Clinicians should consider *Vibrio* as a possible causative organism of wound infections incurred in coastal waters or from contact with shellfish or marine wildlife. *Vibrio vulnificus* wound infections may require extensive debridement and mortality can be high. These infections often manifest with bullous lesions that may be hemorrhagic. Persons with underlying hepatic disease or other immunocompromising illness are at highest risk of *Vibrio vulnificus* infection. When this infection is suspected, the recommendation is that patients be treated with a combination of ceftazidime and doxycycline.

Source:

6th Edition Emergency Medicine: A Comprehensive Study Guide, 2004

34th Edition. The Sanford Guide to Antimicrobial Therapy, 2004

No matter the surgical setting – Inpatient or Outpatient – Compliant preoperative skin cleansing is vital

Summarized by:

Prof. Salim Ahmed Soomro

JPMC, Karachi



The number of outpatient surgeries in the United States continues to increase year-over-year as patients demand convenient and cost-effective alternatives to inpatient care.

In fact, an estimated 65% of all surgical procedures are performed on a day case basis – meaning non overnight – in North America. In 2010, there were 18.7 million ambulatory surgery cases in the United States, which accounted for 64% of all operations. A recent study published in the journal, Health Affairs, shows that ASCs provide a lower-cost alternative to hospitals as venues for outpatient surgeries and since the primary goals of the Patient Protection and Affordable Care Act (PPACA) are to reduce the cost and improve the quality of healthcare, the volume of cases performed in ASCs is likely to increase.

In addition, continued advances in surgical technology, anesthesia care, pain management and rehabilitation suggest that patients eligible to undergo ambulatory procedures may now have more comorbidities than previously encountered. Therefore, there is even greater importance for healthcare providers to implement and improve patient compliance with evidence-based practices proven to reduce the risk of postoperative surgical site infections (SSIs).

A growing body of evidence-based scientific and clinical studies support preoperative skin cleansing as part of a comprehensive strategy to prevent surgical site infections (SSIs). A variety of factors impact patient compliance, but the reality is that preparing for any surgery – whether an inpatient or same-day procedure – can be stressful and overwhelming for patients, particularly if the recommended protocols seem complicated or vague. To help support patients and improve adherence to preadmission antiseptic showering regimens, patients should be armed with the tools and information to confidently prepare for surgery at home.

Recent studies have shown reminder-based interventions to be beneficial in driving compliance with short-term medications, and according to a study published in the August 2014 issue of the Journal of the American College of Surgeons, the use of electronic reminders such as text messages, emails or voicemails are highly effective ways to get surgical patients to adhere to preadmission antiseptic showering regimens known to help reduce the risk of SSIs. Products with clear instructions and automated reminders, can help take guesswork out of the equation so that patients are prepared on the day of their procedure, and arrive feeling confident in the steps they've taken to help reduce risk factors for infection.

The 4% Chlorhexidine Gluconate kit is an easy-to-use intervention for pre-procedural skin cleansing with tools to improve patient compliance. All necessary supplies such as cloths, a bilingual, waterproof instruction card with illustrations and easy-to-read text that can be taken into the shower must be included for patients ease. Patients can also view video instructions for correct product usage online.

As the demand for outpatient procedures grows, ASCs and hospital-based outpatient settings can increase patient compliance by providing products that are easy to use, have clear instructions and come with patient reminder systems.

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10 ways hospitals are making surgeries safer

Summarized by:

Prof. Salim Ahmed Soomro

JPMC, Karachi



There are inherent risks when undergoing surgery, but hospitals are collecting data, implementing new strategies and using technology to reduce risk and prevent adverse events.

Listed below are 10 examples of changes hospitals are making to avoid surgical errors

1. Roughly 600 hospitals are measuring their surgical quality by participating in the National Surgical Quality Improvement Program. As part of the program, hospitals collect and analyze data on surgical complications, compare their data with other hospitals and take steps to fix problems in the future.

2. Ten hospitals involved in the NSQIP program in Tennessee have examined surgical complication rates by procedure to identify areas where improvement is necessary.

3. Some hospitals have found the use of the Association of Peri-Operative Registered Nurses' surgical safety-checklist reduces complications.

4. Anesthesiologists specifically have volunteered their adverse event data to a registry that allows practices to compare data with one another.

5. By delaying elective surgeries until patients are strengthened or in better health and ensuring patients were fully bathed with antiseptic pre-surgery, hospitals have been able to reduce the risk of complications.

6. Some hospitals have focused on improving post-operative care by getting patients walking sooner or using blood thinners to prevent clots to avoid adverse events.

7. Using technology has also helped make surgeries safer. For instance, many hospitals have begun requiring patients be X-rayed before leaving

the ER if any sponges or instruments are missing.

8. Some hospitals use sponges with radio-frequency identification tags and scan patients to make sure no sponges were left inside of the patient.

9. Educating surgeons and staff about the functions and hazards of the tools and energy devices used in the operating room also helps hospitals avoid surgical fires and other adverse events.

10. Efforts have also been made to address how some surgeons behave in ways that contribute to complications and safety issues. Many hospitals and health systems have rolled out training for surgeons to encourage teamwork, discourage intimidating and problematic behavior, and foster a stronger culture of patient safety.

Reference: Infection Control & Clinical Quality February 17, 2015

Fournier's Gangrene

Summarized by:

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Fournier's gangrene results from synergistic poly-microbial infection. It is a type of necrotizing fasciitis of the perineal and genital region. The presentation regardless of the primary causes, differs from anorectal or genital pain. In some cases, there is evidence of cutaneous necrosis and/or rapidly spreading necrosis of the skin and soft tissues, involving the abdominal wall, back and lower extremities. This results in systemic sepsis without an apparent source of infection.

Fournier's gangrene is a surgical emergency. Delay in diagnosis and treatment may be due to inconsistencies in clinical presentation, resulting in fatal outcomes. It is important not to overlook the signs and symptoms even if they are non-specific. Prompt treatment is essential once Fournier's gangrene is suspected. Awareness is crucial in the view of increasing number of immunocompromised individuals.

Bacteriology

Since Fournier's gangrene is a synergistic poly-microbial infection, an average of 3 bacteria cultures from each diagnosed patient includes both aerobes and anaerobes. Anaerobes are not frequently cultured, and mostly attributed to inadequate sampling. Most of the pathogens are of low virulence, but pathological condition such as local trauma and infection with systemic comorbid diseases such as diabetes, alcoholism, HIV and prolong use of immunosuppressant drugs trigger the synergistic action. So these low virulent bacteria can acquire extremely virulent behavior when favorable conditions are available.

Fournier's gangrene is mostly caused by the bacteria normally populated in the perineal area. Most of the wound culture shows the growth of *Escherichia coli*, *Staphylococci*, *Streptococci*, *Proteus* and occasionally *Candida* species. It is widely accepted that the origin of the infection at dermal, rectum or urinary site has a direct relation

on the origin of bacterial species. Infection may be mono-microbial in severely immunocompromised patients.

Anatomy

It is important to understand the anatomy to learn the spread of infection in different anatomical planes and natural course of the disease. The infection resulting due to Fournier's gangrene rapidly spreads along the fascial planes, usually in a matter of hours. Colles' fascia is an important superficial plane of perineum which is continuous with the Dartos fascia of the scrotum and penile fascia, fusing with the urogenital diaphragm. Colles' fascia after surrounding the penis continues superficially to become the Scarp's fascia of the abdomen. This is the reason why infection arising from the perineal area spreads to the skin of scrotum, penis and abdominal wall.

Laterally, Colles' fascia is attached to the pubic rami and fascia lata which limits the spread of infection. The deeper aspect of the penis is surrounded by Buck's fascia. Therefore, infection arising from the urethral trauma or periurethral gland remain limited to the ventral aspect of the penis. Posteriorly, the spread of infection is limited superiorly by the levator ani muscles which fuses with the external anal sphincter. The infection from this area spreads into pre-sacral space once sphincter complex is damaged due to infection, and progress into retrovesical and pelvirectal space respectively. This can involve retroperitoneal space at the level of upper abdomen and rarely into paravertebral space up to neck, eventually penetrating to the peritoneal cavity causing diffusion peritonitis.

Etiology

Despite of better understanding and advancement in diagnostic modalities, it is difficult to determine the primary source of diseases. Perineal infection is the single most common cause with up to 50%



of cases in this regard, either due to primary perineal infection or secondary due to perianal surgery. Possible abdominal causes includes appendicitis, diverticulitis, colonic cancer, inflammatory bowel disease, incarcerated hernias and rarely ileal neobladder.

In cases where the origin of the diseases cannot determine, abdominal source should be suspected and investigated because it can significantly change the line of management. Overall, it is important that the source of origin whether perineal, colorectal, abdominal, urologic or cutaneous, these patients have associated comorbid conditions like diabetes mellitus up to 70%, HIV infection, post chemotherapy, use of steroids, alcoholism and post-transplant patients. Diabetes patients harbor a large number of bacteria on their skin with impaired chemotaxis, phagocytosis and intracellular killing function which predisposes them to infection. Diabetic angiopathy makes it worse by impaired circulation and facilitating anaerobic infection.

The pathogenesis of the infection is multifactorial and well explained since different bacteria contribute to the infection. Staphylococcus and streptococcus contribute to the infection by producing hyaluronidase, streptokinase and streptodornase. Aerobic bacteria act by producing collagenase and heparinase and the anaerobic bacteria induce platelet aggregation and complement fixation which leads to microvascular thrombosis and subsequent necrosis. The phagocytic action is severely impaired in necrotic ischemic tissue leading to the spread of infection. This is probably the reason of pouring necrotic fluid rather than pus in these patients.

Clinical Presentation

The clinical presentation of Fournier's gangrene is often unclear and misleading. Patient may have perianal or perineal pain which is irregular with the clinically visible finding of pruritus in the area

involved. Sometimes non-specific findings like malaise, abdominal pain and general signs of sepsis like tachycardia volume depletion, anemia, increase urea creatinine and electrolyte imbalance are also present. The clinical findings are more clear with typical stain necrosis which is rarely the first sign of disease. Black dermal necrosis is caused by the thrombosis of subcutaneous vessels is the manifestation of more severe underlying infection.

Diagnosis of the condition is mostly based on clinical grounds. A high index of suspicion must be kept when suspecting Fournier's gangrene, because delay in diagnosis and treatment may have adverse outcomes. Radiological investigations such as scrotal ultrasound shows edema and presence of gas in the scrotal skin, while CT scan to see the fascial plane thickness and involvement of retroperitoneum can speed up the management. Preoperative CT scan is helpful to decide the extent of debridement in clinically non-evident fascial plane.

Treatment

The primary treatment of Fournier's gangrene is surgery, however, prompt resuscitation is mandatory with the correction of fluids and electrolytes, management of coagulation disorders and administration of broad spectrum antibiotics is commonly used. Careful examination under anesthesia and serial debridement is mandatory. If no cause is identified perioperatively, think about the abdominal cause especially when necrotic testicles are found during debridement. Surgical debridement should be extended until well-profuse viable tissues are found. Since this type of infection spreads along fascial plane, any unnecessary perforation should be avoided.

This is especially critical for retroperitoneal infection where the peritoneum should not be violated.



Serial exploration within 24 to 48 hours should be carried out until the infection is controlled. Diversion should be performed if there is extensive sphincter damage or extensive perineal debridement is required. In most cases the testes and rectum can be preserved, whereas in cases where the rectum and sphincter apparatus are severely damaged by infection, extensive operation like abdomino-perineal resection may be performed. For conditions of extensive scrotal debridement, the testicles can be protected in thigh or abdominal skin, but it may impair fertility.

The role of hyperbaric oxygen therapy is controversial as some authors believe that it has direct affect against anaerobic bacteria by formulation of free radicals, and restores the action of neutrophils, phagocytes while improving wound healing by fibroblast growth and angiogenesis. On

the other hand, no significant data is available to support its use in order to change the outcomes. Although it has no deleterious effect, but the high cost associated with hyperbaric treatment is often prohibitive. Regular daily dressing with saline and iodine solution is mandatory to clear the debris and reduce the septic load. Unprocessed honey has proven antibacterial activity, as it can lead to oxygen production and absorb fluid from the wound as well as halt the progression of necrosis.

Lyophilized collagenase digests the necrotic tissue and regenerate the skin, decreasing the need for surgical debridement. In most cases, healing occurs by secondary intervention however reconstructive surgeries such as split thickness grafts or myocutaneous flap may be necessary to reduce extensive debridement.

Pyoderma gangrenosum (PG). PG is an uncommon condition that occurs almost exclusively in patients with Inflammatory bowel disease. It is more common in women and peaks in the third to sixth decades of life. Lesion borders are purplish in colour with an erythematous edge. The ulcer progresses, leading to a painful, necrotic wound. It usually responds to steroids, and standard dressing after removal of the necrotic tissue, and good colitis control.

Genital Tract Infections

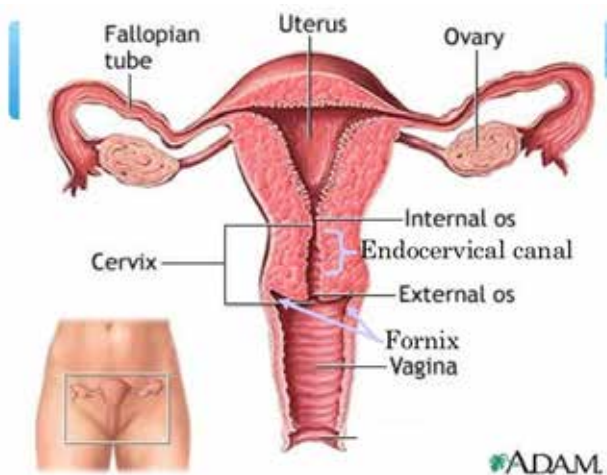
Summarized by:

Dr. Sana Ahmed

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Genital Tract Infections



In order to have thorough knowledge and effective diagnosis one should be able to clarify Genital Tract Infections as it depends directly upon the presentation of clinical cases and their management also varies accordingly.

Classification

According to region i.e.:

- Upper Genital Tract Infections: affecting pelvic reproductive organs i.e. fallopian tubes, uterus.
- Lower Genital Tract Infections: affecting cervix and vagina.

According to Mode of Transmission i.e.:

- Sexually transmitted Infections: The actual incidence of this group of infections can be determined with the help of well-set genitourinary Medicine Clinics and effective eradication is dependent upon contact tracing, treatment of patient's partner(s) and moral education.
- Non-Sexually transmitted infections: This group of infections is related to health and hygiene practices mainly.

According to causative organisms:

■ Viral:

- Herpes Simplex
 - Type 1 orolabial / genital
 - Type 2 genital only
- Human Papillomavirus
 - 6 and 11- Genital warts
 - 16 and 18 – High grade CIN and cervical neoplasia

Viral infections of the Reproductive tract

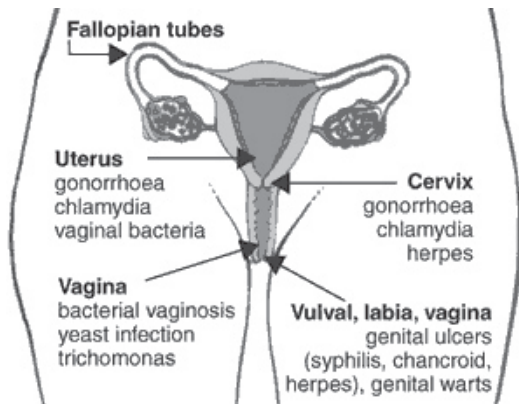
Disease	Pathogen	Signs and Symptoms	Transmission	Diagnostic tests	Antimicrobial drugs / Vaccines
Cervical cancer	HPV types 16, 18 and others	Development of cancer in cervix (or elsewhere)	Direct contact, including sexual	Pap smear	Gardasil vaccine, Cervarix vaccine
Genital herpes	Herpes simplex virus (HSV-1 or HSV-2)	Recurring outbreaks of skin vesicles on genitalia and elsewhere; asymptomatic in many individuals	Sexual contact or contact with open lesions	Viral culture, PCR, ELISA	Acyclovir, famciclovir, valacyclovir
Human papillomas	Human papilloma-virus (HPV) (various strains)	Genital warts or warts in other areas	Direct contact, including sexual	Pap smear	Imiquimod, podofilox, sinecatechins
Neonatal herpes	Herpes simplex virus (HSV-1 or HSV-2)	Vesicles on the skin, mucous membranes, eyes' in disseminated infections motor impairment and possible death of fetus or newborn	Exposure to pathogens in the birth canal; transplacental infection in some cases	Viral culture or PCR	Acyclovir

■ Bacterial:

- Bacterial vaginosis
- Trichomonas vaginalis
- Chlamydia trachomatis
- Syphilis

■ Fungal:

- Candida



Symptoms

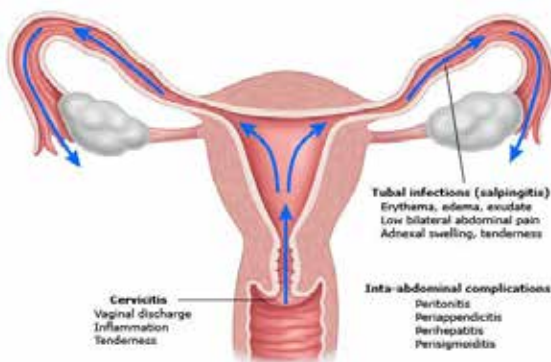
The symptomatology of genital tract infections can be divided into:

Major symptoms like:

- Lower abdominal pain
- Abnormal vaginal discharge
- Unscheduled vaginal bleeding
- Dysmenorrhea
- Dyspareunia
- Intermenstrual / postcoital bleeding

Associated symptoms like:

- Dysuria
- Fever
- Lower back pain
- Pain while defecation



Risk Factors

- Unhygienic conditions
- Post-partum endometritis
- Intrauterine contraceptive devices
- Septic abortions
- Recent interventional procedures (Hysterosalpingography, IVF etc)
- Multiple sexual partners

Variations in The Efficacy of Defence Mechanism

■ With Age:

During childhood and after the menopause

- Estrogen deficiency decrease glycogen and Doderlein bacilli absent vaginal acidity.
- Endometrium poorly developed or atrophic and does not undergo cyclic shedding.

■ With menstruation:

- Absent cervical mucus plug.
- Lowered vaginal acidity by alkaline menstruation.

Diagnosis

To ensure effective diagnosis of the disease three basic steps are always to be followed:

History: Characteristics of discharge (onset, duration, odor, color). Associated symptoms (itching, burning, dysuria, superficial dyspareunia). Cause of vaginal discharge can also be determined by the colour and consistency of discharge; as described in the table below:



Cause Of Discharge	Colour Of Discharge	Consistency Of Discharge
Physiological	Clear/white	Mucoid
Candida albicans	White	Curd-like
Trichomonal	Grey/green	Frothy
Gonococcal	Greenish	Watery
Bacterial vaginosis	White/grey	Watery
Malignancy	Bloody	Watery
Foreign body	Grey/bloody	Purulent
Atrophic vaginitis	Clear/blood stained	Watery

Relationship of discharge to menstrual cycle.
Precipitating factors (pregnancy, contraceptive pills).

Sexual history: Medical history (diabetes, immunocompromised later)

Non Infectious causes (foreign body, ectopy, malignancy, dermatological conditions)

Hygiene (practices douches, bath products, talcum powder, allergies)

Examination

External examination (for vulvitis, obvious discharge, ulcer or other lesions)

Speculum examination: appearance of vagina, cervix, foreign bodies, amount, color and consistency of discharge

Bimanual examination: masses adnexal tenderness, cervical motion tenderness.

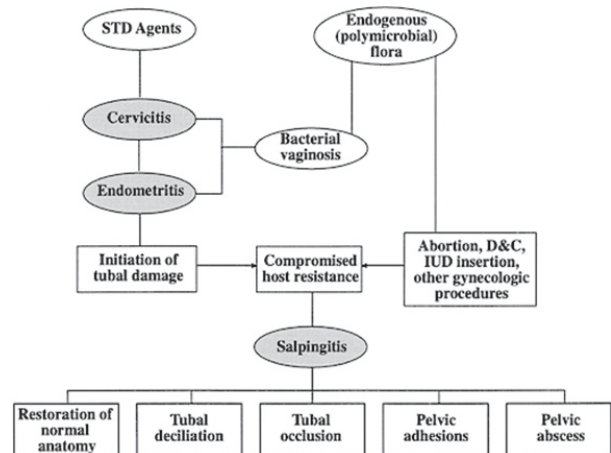
Investigation

Systemic investigations: CBC, Urine D/R, Viral markers, VDRL screening

Local investigations: Endocervical and vulvo vaginal swabs, high vaginal swabs, vaginal pH measurement

Complications

- Tube-ovarian abscess
- Tubal infertility
- Ectopic pregnancy
- Disseminated infections
- Recurrent pelvic inflammatory disease
- Fitz-Hugh Curtiz Syndrome



Implications in Pregnancy

- Preterm Pre-labour rupture of membranes
- Preterm delivery
- Chorio-amnionitis
- Early pregnancy loss
- Neonatal conjunctivitis
- Neonatal pneumonia (in case of STIs)

Treatment and Prevention

- Broad spectrum antibiotics
- Good hygiene conditions
- Early diagnosis
- Barrier contraception
- Education and awareness
- Restriction to one sexual partner
- Ethical and moral education

CASE REPORT

A Case of Huge Neck Swelling; an Unusual Presentation

Dr. Naseem Baloch

Associate Professor of Surgery,
JPMC, Karachi



History and Examination

13 yrs-old young girl with no prior comorbid presented with C/O large neck swelling- childhood.

The swelling was slow growing and did not cause respiratory distress.

O/E: Large, firm, irregular mass approx. 20 x 20 cm on left side of neck extending from temporo -mandibular joint to clavicle occupying both anterior and posterior triangles of the neck.

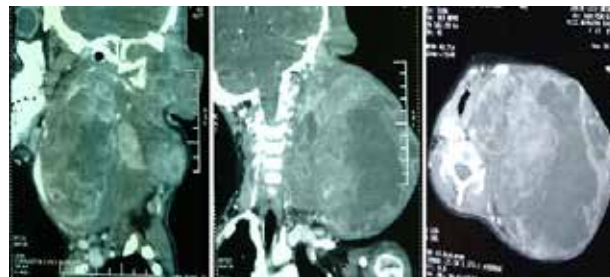


Initial Trucut Biopsy

Largely necrotic and hyalinized tissue with a tiny fragments showing proliferation of spindle shaped cells with mild atypia. Definitive diagnosis and

immunohistochemical stains not possible due to inadequate material.

CT SCAN NECK (Dec 01,2016)



There are multiple confluent necrotic mass lesions occupying the occipital triangle. Supra and infra hyoid part of the neck on the left side.

The largest confluent mass is measuring 13.5x14.5x14.0 cm in maximum AP x TS x CC dimension.

Post contrast study shows non-homogenous enhancement with multiple necrotic non-enhancing areas within the mass.

Superficially the mass is infiltrating into the subcutaneous fat and skin with large lateral bulging on left side. The mass is displacing the sternocleidomastoid and paravertebral muscle posteriorly.

The deep part of the mass is infiltrating into the parapharyngeal space abutting and displacing the oropharynx, larynx, hypopharynx and trachea towards the left side.

The mass is also displacing the carotid sheath antero-medially. Superiorly, the mass is causing sclerosis, thinning and erosion of the left occipital bone, mastoid and petrous temporal bones.

A white bony defect noted in the posterior cranial fossa on the left side where the mass is abutting against the meninges and transverse sinuses without infiltration in the cranial cavity.

Anteriorly, the mass is abutting and displacing the ramus of the mandible, parotid and submandibular glands.

Posteriorly, the mass is abutting against the pre vertebral space and cervical spine on the left side. Slight widening of the left neural foramen epidural space noted at C2-C3 level on the left side without causing bony destruction.

Inferiorly the mass is displacing the thyroid gland towards the right side extending down to the root of



the neck and supraclavicular region. Findings are most likely due to a malignant

neoplastic lesion, could be neurogenic in origin or lymphomatous.

The Surgery



Histopathology Report

Malignant Spindle Cell Neoplasm.
Morphology and immunohistochemistry favour Malignant Peripheral Nerve Sheath Tumor. (MPNST)
S100: Focal +ve
CD 34: -ve in tumor cells
ASMA: -ve
CK AE1/AE3: -ve

Discussion

MPNSTs comprise approximately 5-10% of all soft tissue sarcomas. They can occur either spontaneously or in association with neurofibromatosis-1 (NF1). MPNSTs usually present as an enlarging palpable mass. Pain is a variable complaint. Rapid

enlargement occurs more often in the setting of NF1 and should raise concern for malignant degeneration of a neuro fibroma. MPNSTs arising from peripheral nerves may result in a variety of clinical patterns, including radicular pain, paresthesias, and motor weakness.

The mainstay of treatment is surgical resection. The goal of the operation is to achieve complete surgical excision of the tumor with negative (wide) margins. This offers the best outcome with respect to both local recurrence and distant metastases. Together with wide surgical excision, radiation therapy offers local and overall survival rates. The use of chemotherapy is only employed in high-grade disease, in which metastatic disease is likely.

Conclusion

Post-operative recovery was uneventful and the patient recovered well.

References

- Malignant Peripheral Nerve Sheath Tumors, Mohamad Farid, Elizabeth G. Demicco, Roberto Garcia, Linda Ahn, Pamela R. Merola, Angela Cioffi and Robert G. Maki, The Oncologist, 2016
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- Primary malignant peripheral nerve sheath tumor at unusual location, Souvagya Panigrahi, Sudhansu Sekhar Mishra, Srikant Das, and Manmath Kumar Dhir, J Neurosci Rural Pract. 2013 Aug; 4
- Malignant peripheral nerve sheath tumors (MPNST) in NF1-affected children., Friedrich RE1, Hartmann M, Mautner VF. Anticancer Res. 2007 Jul-Aug; 27

Quiz



What is the cause of this leg ulcer in a 37-year-old woman with ulcerative colitis?



Winners of Lucky Draw

The editorial board of *Infectio® Surgery* magazine is pleased to announce the names of winners for quiz from the 2nd issue. The lucky draw was held in a meeting at Jinnah Postgraduate Medical Centre, Karachi, on 14th June, 2017. Following are the names of lucky draw winners drawn at randomly by Prof. Salim Ahmed Soomro and his team.

We congratulate the winners and once again thank all contestants for their participation in quiz

1. Dr. Ali Haider, Ibn-e-Sina Hospital, Karachi
2. Dr. Atiya Waqas, District Red Crescent Hospital, Sargodha
3. Dr. Shaukat Rabbani, Ghurki Hospital, Lahore
4. Dr. Aisha Aziz, Indus Hospital, Larkana
5. Dr. Nur Saeed, City Hospital, Multan
6. Dr. Syed Karim Shah Shirazi, Sahiwal Medical College, Sahiwal
7. Dr. Tariq Abdullah, PIMS, Islamabad
8. Prof. Irfan Uddin Khattak, Shafiq Medical Centre, Abbottabad
9. Dr. Muhammad Ismail, Saidu Teaching Hospital, Swat
10. Dr. Saima Noor, Jinnah Hospital, Gujranwala