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The diseases of the soft tissues of the perineum

Guidelines for students and interns

Модуль 2
Хірургічна гастроентерологія

Тема 15
Захворювання м'яких тканин промежини

Методичні вказівки для студентів та інтернів

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Compilers Igor Kryvoruchko
Nikolay Krasnoselskiy
Alexander Tonkoglas
Sergei Teslenko
Andrey Sivozhelezov
Victor Cheverda
Sviatoslav Balaka
Nikolay Sikal
Marina Povelichenko
Vladimir Chugay
Natalya Goncharova
Samha-Kateryna Goni
Simeha-Alina Goni

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Упорядники І. А. Криворучко
М. В. Красносельський
О. А. Тонкоглас
С. М. Тесленко
А. В. Сивожелізов
В. М. Чеверда
С. М. Балака
М. О. Сикал
В. В. Чугай
М. С. Повеличенко
Н. М. Гончарова
С.-К. Т. Гоні
С.-А. Т. Гоні

THE DISEASES OF THE SOFT TISSUES OF THE PERINEUM

SOFT TISSUE INFECTIONS

Definitions and Etiologies

Soft tissue infections were first defined slightly more than a century ago. In 1883, Fournier described a gangrenous infection of the scrotum that continues to be associated with his name. In 1924, Meleney documented the pathogenic role of streptococci in soft tissue infection. Shortly thereafter, Brewer and Meleney described progressive polymicrobial postoperative infection of the muscular fascia with necrosis (the term necrotizing fasciitis was not introduced until the 1950's). The association between toxic-shock syndrome and streptococcal soft tissue infection was delineated as this disease reemerged in the 1980s.

- Diverse group of diseases that involve the skin and underlying subcutaneous tissue, fascia, or muscle.
- May be localized to a small area or may involve a large portion of the body.
- May affect any part of the body, though the lower extremities, the perineum, and the abdominal wall are the most common sites of involvement.
- Some are relatively harmless if treated promptly and adequately; others can be life-threatening even when appropriately treated.
- Simple vs. complex.
- Primary vs. secondary vs. tertiary.
- Cellulitis vs. abscess.
- Superficial vs. deep.
- Necrotizing vs. non-necrotizing.
- Traumatic vs. non-traumatic.
- Dermatitis, fasciitis, myositis (combinations).
- Single vs. multiple pathogens.
- Classic syndromes: rapidly progressive infections; toxic shock syndromes; specific etiologies or pathogens.

Symptoms and signs

- Pain (localized tendernes) → loss of sensation.
- Erythema, edema / induration.
- Blisters, crusted plaques.
- (Epi) dermal erosion and necrosis.
- Fluctuation, crepitus.
- Systemic signs of SIRS/Sepsis: fever, tachycardia, hypotension, organ dysfunction.

PELVIC ABSCESS

An abscess is a circumscribed collection of pus formed by liquefaction necrosis within tissue. Fibrous tissue is deposited around these pus collections if they are not drained. This tends to isolate the purulent collection further, serving to localize microbial enzymes or toxins injurious to the host, thus making it more difficult for antimicrobial agents to penetrate the capsule and sterilize the contents. In addition, local exhaustion of complement and enzymatic degradation of immunoglobulins occur, favoring the persistence of the bacterial infection.

Abscesses complicate both hysterectomy and cesarean delivery as well as forming as the result of pelvic inflammatory disease (PID). The clinical diagnosis is generally based on the findings of fever and a palpable adnexal or pelvic mass. This mass may be distinctly palpable and fluctuant or less distinct and characterized by a "fullness" noted during bimanual pelvic examination. A pelvic abscess can develop despite appropriate antibiotic treatment for postoperative soft-tissue infection or PID. Abscess formation is a common reason for a patient failing to respond to an initial course of antibiotic therapy. Clinical manifestations include a persistent spiking temperature along with a leukocytosis and elevated erythrocyte sedimentation rate or C-reactive protein.

Imaging techniques are helpful in characterizing the size of the abscess and in determining whether the collection of purulent material is *unilocular* or *multilocular*. Patients with a true localized *unilocular*, purulent collection will be more likely to require surgical drainage. An image showing a*multiloculated* mass may reflect inflamed pelvic tissues and bowel often adhere to one another with associated small pus collections. These masses have been referred to as *tubo-ovarian complexes.* Patients with tubo-ovarian complexes are more likely to respond to antibiotic treatment alone.

Ultrasound (US) is the first method of choice to evaluate a pelvic mass thought to be an abscess. It easily differentiates between fluid-containing and solid lesions. Pus collections have fine internal echoes of differing sizes. Transvaginal sonography can augment the findings noted during abdominal scanning.

Computed tomography (CT) or magnetic resonance imaging (MRI) are cross-sectional imaging methods that generate information similar to that noted on transverse sections on ultrasound. CT examination is optimally performed after the patient is administered oral contrast to opacify the bowel loops and intravenous contrast to identify vascularity and to opacify the urinary tract. Like ultrasound, CT or MRI can locate inflammatory masses and abnormal fluid collections, but is used more often than US to search for a suspected abscess in a postoperative patient in which an US examination is limited by open surgical wounds and abundant bowel gas. An abscess has a low-density center if liquefaction has occurred. A thick wall may be demonstrated, depending on the age of the abscess.

The microbiology of pelvic abscesses is predominately anaerobic. The intra-abdominal abscess rat model of Weinstein and colleagues is an excellent description of the phases of pathogenesis of mixed aerobic–anaerobic infections of the abdomen and pelvis:

Phase I: Initial stage of peritonitis, sepsis, and an associated high mortality rate of nearly 40% appeared to be due to facultative Gram-negative bacteria, particularly *Escherichia coli*.

Phase II: Abscesses developed in the surviving rats during the secondary phase of infection due to anaerobic bacteria, particularly *Bacteroides fragilis*.

A similar biphasic disease process can occur in PID, pelvic cellulitis, and endomyometritis which are analogous to the initial phase of *peritonitis* in this model. These infections can progress to phase II characterized by *pelvic abscess formation.*

The traditional approach to the treatment of mixed anaerobic-aerobic soft-tissue pelvic infections sheds additional light on the pathophysiology of abscess formation and on the importance of using antimicrobials with activity against penicillin-resistant anaerobes as part of initial therapy. Initial treatment with penicillin and gentamicin or with ampicillin alone has a relatively high failure rate. Most initially resistant infections respond to the addition of an antibiotic with extended anaerobic activity (*e.g.*, clindamycin, metronidazole). Patients who do not improve with broad-spectrum antimicrobial therapy should be evaluated for the presence of an abscess, septic pelvic thrombophlebitis, or drug fever.

Broad-spectrum antibiotics are given as the initial treatment for patients with a diagnosis of pelvic abscess. The gold standard of antimicrobial regimens for the treatment of pelvic abscess is combination therapy with either clindamycin or metronidazole in conjunction with an aminoglycoside, third-generation cephalosporin, or aztreonam. Other agents with therapeutic utility include single-agent treatment with an extended-spectrum cephalosporin (*e.g.*, cefoxitin, cefotetan, cefotaxime, ceftizoxime), an extended-spectrum penicillin (*e.g.*, mezlocillin, piperacillin), carbapenems (imipenem, meropenem, ertapenem), and β-lactamase inhibitors plus a β-lactam (*e.g.*, ampicillin/sulbactam, ticarcillin/clavulanate, piperacillin/tazobactam; see ahead to Table 2).

When antimicrobial treatment is started, a decision on the need for surgical intervention is required. Pelvic abscesses will commonly respond to antimicrobial treatment alone. This is particularly true in patients with pelvic inflammatory disease that is complicated by a tubo-ovarian abscess. Treatment with broad-spectrum antimicrobials results in a satisfactory response to therapy without the need for surgery in 75% of cases. Most abscesses complicating posthysterectomy infections are cuff abscesses and can be easily drained by dilating the vaginal cuff. Patients with postoperative adnexal abscesses (tubo-

ovarian abscesses) are less likely to respond to antibiotic treatment alone, but trial use of antibiotic therapy is warranted before surgical drainage. An adnexal abscess that fails to respond to antibiotics should be drained.

Techniques recommended for the drainage of pelvic abscesses have evolved. In the past surgeons preferred laparotomy and drainage, with or without extirpation of the infected tissues, as the treatment of choice. Now, laparoscopic approaches are now being used to drain or excise infected tissue. However, percutaneous drainage guided by CT or US is now the procedure of choice for drainage of a pelvic abscess with success rates of 80–90%.The choice of options is based on the skills and facilities available at each hospital.

A ruptured pelvic abscess remains a surgical emergency. Such patients generally present with persistent fever, increasing leukocytosis, and a rigid abdomen. Immediate surgery after the initiation of antimicrobial therapy and fluid resuscitation is necessary. Standard treatment consists of drainage of the pelvic abscess and copious irrigation of the abdominal cavity. In some cases removal of the adnexa is necessary for cure and should be considered, particularly in women who have completed their families or in postmenopausal women.

SEPTIC PELVIC THROMBOPHLEBITIS

Septic pelvic thrombophlebitis (SPT) is a rare but potentially serious complication of postpartum infections. The incidence of this disease ranges from 0.03% to 0.18% of obstetric procedures, including cesarean delivery. The disease occurs even less frequently after gynecologic surgical infections.

The pathophysiology of SPT is outlined by Virchow's triad:

Venous stasis

Injury to the vascular epithelium

A hypercoagulable state

These factors explain why SPT is almost always a puerperal event that is most commonly diagnosed after postcesarean endomyometritis. Pregnancy predisposes the patient to a hypercoagulable state. Infection is believed to be the cause of injury to the vascular epithelium. After delivery, pelvic veins collapse and stasis occurs. The ovarian veins, particularly on the right, tend to be involved. Approximatly 40% of the time, the smaller uterine pelvic veins are thrombosed. This small vessel thrombosis may be overlooked by CT or MR scanning. The diagnosis of SPT can be made when the patient has persistent fever despite 96 hours of antimicrobial treatment for postpartum endomyometritis and imaging confirms pelvic vein thrombosis. The patient appears well except during the febrile spikes and usually has a normal physical examination. The differential diagnosis includes drug fever.

The diagnosis of SPT is distinctly different from the diagnosis of the patient presenting with an acute ovarian vein thrombosis (OVT). Patients with OVT are acutely ill and in pain. They present with localizing tenderness and a

midquadrant mass. A computed tomographic scan confirms the presence of a clotted ovarian vein (*Table 1*).

Table 1 – Pelvic vein thrombophlebitis

Acute ovarian vein thrombosis	Septic pelvic thrombophlebitis
Onset 2–4 days after surgery	Onset 4–8 days after surgery
Acute onset	Slower evolution
Acutely ill	Appears well
Localized pain	Painless
Midquadrant mass	No mass
CT scan usually abnormal	CT scan can be normal

CT scan = computed tomographic scan.

The use of anticoagulation can be used as a diagnostic test for SPT as the patient's response should be prompt, becoming afebrile within 24 hours. The treatment of SPT includes the continuation of broad-spectrum antibiotic therapy. The use of an antibiotic (e.g., clindamycin or metronidazole) with a spectrum of activity against anaerobic bacteria is important because some of these microorganisms have been shown to produce a heparinase and may lead to persistent or progressive disease. The patient should be therapeutically anticoagulated, although response occurs in patients treated with heparin despite a normal coagulation profile. Treatment need only be continued until the patient is afebrile for 48 hours. No long-term or outpatient therapy is needed. The cause of the thrombosis is related to the infection and pregnancy (both are nonrecurring risk factors). Anticoagulated patients with pulmonary embolism should be considered candidates for inferior vena cava ligation or for placement of a Greenfield filter. Hysterectomy is not indicated in these patients.

In those patients not responding to heparin, a diagnosis of refractory postpartum fever can be made. Anticoagulation may be stopped. Management of these patients is *continued antibiotic therapy* and observation if pelvic abscess has been ruled out. Given that most of these patients feel well, outpatient treatment with close followup is acceptable. The natural history of disease in these patients is gradual resolution of fever, averaging 12 days.

NECROTIZING FASCIITIS

Necrotizing fasciitis is a serious infection of the superficial fascia and is associated with extensive necrosis of the superficial fascia and subcutaneous

fat. The most common sites affected in the obstetric and gynecologic patient are the vulva and the anterior abdominal wall. This process starts with a simple infection of the subcutaneous tissue often associated with an abrasion or furuncle or a surgical wound. The inflammatory process then extends along superficial fascial planes (*Fig. 1*). Thrombosis of small vessels occurs, devitalizing the subcutaneous tissue and resulting in the destruction of superficial nerves. The anatomic realities of this disease explain its spread. The superficial fascia of the vulva (*Camper's fascia*) is contiguous with the same fascia on the anterior abdominal wall and inner thighs. In addition, this fascia comprises most of the labia majora. The deeper fascia of the vulva (*Colles' fascia*) is contiguous with *Scarpa's fascia* of the anterior abdominal wall. These planes allow the infectious process to spread from the vulva to the anterior abdominal wall and into the inner thighs.

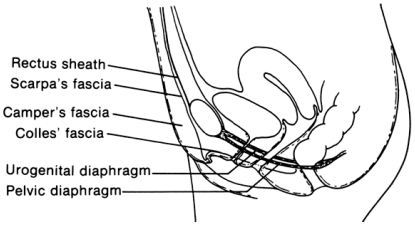

Fig. 1. Anatomic realities in dealing with necrotizing fasciitis. (Shy KK, Eschenbach DE. Fatal perineal cellulitis from an episotomy site. Obstet Gynecol 1979;54(3):292-8)

Patients with this disorder invariably have an underlying disease that impairs host immunity. Diabetes mellitus is the most common predisposing disease, but women with atherosclerosis or those who are on steroid therapy are also at risk. Rarely, necrotizing fasciitis develops in postpartum patients who have had episiotomies. Necrotizing fasciitis in the retropsoas and subgluteal spaces complicating pudendal anesthesia also has been reported.

The bacterial pathogenesis of necrotizing fasciitis is polymicrobial. Aerobic and anaerobic bacteria, especially streptococci, *E. coli*, *Clostridum* sp., and *Bacteroides* sp., found in the genital tract can manufacture proteases that break down collagen and elastin and allow the infection to spread along tissue planes. In addition, *Streptococcus pyogenes* (group A streptococcus), alone or in combination with *Staphylococcus aureus*, is an important pathogen associated with this disease.

Symptoms associated with necrotizing fasciitis include the presence of a superficial skin lesion, swelling of the affected area, and local pain followed by numbness. Patients appear acutely ill, and fever is common. Physical examination reveals skin changes that progress from an erythema to a blue-grey discoloration. Bullous changes in the skin may be present in advanced disease. During palpation of the affected area, crepitance may suggest the presence of subcutaneous gas. The hallmark of the diagnosis of vulvar necrotizing fasciitis is the presence of woody induration extending into the inner thighs.

Laboratory studies usually confirm an anemia and associated leukocytosis. Patients may be hypocalcemic from the saponification of calcium in the subcutaneous tissue. X-ray examination may suggest the presence of subcutaneous gas.

The mainstay of therapy for patients with necrotizing fasciitis is *surgical debridement.* After patients have been started on broad-spectrum antimicrobial therapy (*Table 2*) and resuscitated with fluids, immediate surgery is in order. The first order of business is to remove all necrotic tissue with its overlying skin. Infected tissue should be resected to bleeding edges. The deep fascia should be inspected. Do not tunnel beneath the skin to remove necrotic tissue. This approach makes continued care on the ward impossible. Leave an incision that can be unpacked and inspected on the ward. Pack the wound open with povidone-iodine-impregnated gauze. Consider observing the patient in a critical care setting if her condition warrants it. A planned second exploration of the wound in 24 hours may be considered to ensure that the infectious process has ceased to spread.

Antibiotics should be continued until wound induration and the systemic signs of sepsis have disappeared. The wound should appear beefy red with granulation tissue. Continued wet-to-dry dressing changes allow many wounds to heal by secondary intention. In some cases, secondary closure or skin grafting is necessary. Consultation with a plastic surgeon may be appropriate to obtain the best cosmetic result in patients with extensive vulvar or abdominal incisions, or both.

Table 2 – Antibiotic regimens useful in the treatment of serious obstetric and gynecologic infections

Combination therapy
Regimen A Clindamycin (900 mg q 8 h) or metronidazole (500 mg q 6 h) + Gentamicin* (1.5 mg/kg q 8 h) (other aminoglycoside*) or aztreonam (2 g q 8 h) + Ampicillin (1 g q 6 h)
Regimen B Extended-spectrum penicillin with β-lactamase inhibitor Ticarcillin with clavulanate (3 g/200 mg q 6 h) Ampicillin/sulbactam (2 g/1 g q 6 h) Piperacillin with tazobactam (3 g/375 mg q 6 h) + Gentamicin* (1.5 mg/kg q 8h) (other aminoglycoside*) or aztreonam (2 g q 8 h)
Single-agent therapy
Carbapenem: Imipenem/cilastatin (500 mg q 6 h) or Meropenem (1 gram q 8 h) or Ertapenem (1 gram q 24 h)

*Amikacin may be preferred in severely ill, immunocompromised patients who have a high probability of infection with a resistant microorganism.

PYODERMA GANGRENOSUM

Introduction

Pyoderma gangrenosum is an unusual debilitating skin condition that complicates about 2% of cases of inflammatory bowel disease (IBD). The ulcers typically occur on the lower extremities of patients with ulcerative colitis (UC). Although the histopathology of pyoderma gangrenosum is well described, the diagnosis is a clinical one. Skin lesions begin as pustules, break down, and rapidly coalesce to form superficial ulcers with necrotic undermined borders.[3] The ulcers have a characteristic violaceous appearance and severe pain is a consistent feature. First described in 1984 by McGarity et al, peristomal pyoderma gangrenosum (PPG) is much less common than lower-extremity pyoderma gangrenosum; to our knowledge, only 25 cases have been reported in the world literature. Whereas lower-extremity pyoderma gangrenosum usually occurs in patients with UC, PPG is usually seen in patients with Crohn disease (CD). It is difficult to determine the true incidence of PPG, as it is usually not recognized and infrequently reported. In the peristomal position, the ulcers may be confused with local trauma, infection, or a cutaneous manifestation of some other systemic disease. Usually, ulcers of these types respond to conservative therapy and local wound management. Because of the rarity of the condition, PPG ulcers are usually present for quite some time before they are properly diagnosed and treated. After failure of conservative measures, the treatment is usually medical and the response is variable. No single therapy has been demonstrated to be efficacious in all cases.

The misdiagnosis of pyoderma gangrenosum can have serious consequences. Cutaneous ulcerations in patients with suspected pyoderma gangrenosum often prove, on further workup, to have a different cause. Moreover, treatment directed at pyoderma gangrenosum – high-dose prednisone or other immunosuppressive medications – may be contraindicated in patients with any of several diseases that may produce ulceration resembling that of pyoderma gangrenosum, such as infectious or malignant processes.

PERIANAL DERMATITIS

Perianal dermatitis

Perianal dermatitis is one of the most common proctological disorders. The anatomy of the anal region provides suitable conditions for the development of dermatitis. In the diagnostic work-up and the management of patients with perianal dermatitis, three types need to be distinguished: irritant contact dermatitis, atopic dermatitis, and allergic contact dermatitis. Each type has its etiological and pathogenetic factors, which will provide clues to the diagnosis and subsequent management of the condition.

Perianal streptococcal dermatitis

Perianal streptococcal dermatitis is an infectious condition of the skin around the anus in children. It is caused by group A beta-haemolytic streptococcus bacteria.

Symptoms

Perianal streptococcal dermatitis presents with sharply demarcated redness, local swelling and itch of the area around the anus. It may be accompanied by inflammation of the vulva and vagina in girls (or end of the penis in boys), pain on passing a bowel motion, constipation, cracks in the anus and discharge of pus and/or blood from the rectum.

Cause

Perianal streptococcal dermatitis is caused by streptococcal bacteria of the group A beta-hemolytic type.

The same bacterium may be carried in the throat. The bacteria may be passed to other children. However, some children carry the bacteria in the anal and genital area without it causing disease.

Investigations

A swab for bacterial culture will confirm the diagnosis. A rapid streptococcal test may provide a quicker result.

Management

Oral penicillin for 14 days is usually prescribed. Amoxicillin and clarithromycin are alternatives. A repeat course of antibiotics is sometimes required.

The condition may recur, in which case the treatment may be repeated.

CONDYLOMATOSIS OF PERINEUM

The genital Condylomatosis or genital infection by Human Papillomavirus (H.P.V.) was known since the time of ancient Greeks and Romans and had always been considered as a disease undergoing sexual transmission, so that for long time, until its viral etiology was proved, it was considered to be a clinical manifestation of the syphilis.

Certainly the most common way of contraction of the disease is through sexual exposure, although the presence of the H.P.V. on vehicle materials such as underwear, speculem, biopsy forceps, and towels has been extensively demonstrated. Moreover, it has been documented a vertical transmission to the fetus at parturition via the maternal birth channel. In infants born naturally from mothers affected by vulvo-vaginalis exophytic Condylomatosis, the risk of contraction of laryngeal papillomatosis is increased of about 30 times. The condyloma appears as a benign neoplasia, raised up from the underlying epithelium via a single implantation basis, sessile or pedunculate, displaying a roundish or rough surface. The first manifestations appear generally on the fourchette as well as on the posterior part of the vulvar vestibulum, both areas undergoing mostly a traumatic stress during sexual intercourses. The

Condylomas can develop in groups on the external organs as well as around the urethral meatus and in the clitoral area; they often expand in the first third inferior of the vagina, extending sometimes throughout its length, with a clinical involvement also of the cervix.

The disease can develop in the anterior area of the vulva up to the mons Veneris, as well as more posterior toward the perineum and perianus, so that around 25 % of roundish women display concomitant anal warts, not necessarily indicatives of their sexual habits. The Condylomatosis of the anal channel is more frequent than people may think, and when this remained not diagnosed or properly treated it could give rise to recurrent lesions of the vulva. Symptoms can be accented and may include itching, burning and pain.

Up to date, the natural history of H.P.V. infection has not been understood yet. An estimation of the real prevalence of the pathology in the general population has been made difficult by the lack of a unified organization in the specialized clinical services. The incidence of the disease, which has been estimated of around 0,5–1,2% between the age of 18 and 25', is continuously increasing both in the developing countries as well as in the Western world. In the United Kingdom for example, such increase seems to be of about 10% every year and American studies document around one million of new infections per year.

During the last decade, the scientific interest toward the virus has exploded because of its relation with the pre-cancerous and cancerous degeneration of the genital tract. However, the intimate mechanism underlying the integration of the viral genome with that of the host cell is not known yet. Such integration is a condition unique and necessary for initiating the pre-neoplastic process.

The H.P.V. belongs to the family of the PA.PO.VA. (Papilloma, Polyoma, Vacuolation), and is an epitheliotrophic virus, species-specific, not reproducible in vitro, with a diameter of about 50–55 μm. This virus replicates in vivo onto the squamous epithelium, starting from the basal layer that can be reached via microtrauma-induced passages.

Up to date, a specific presidium against H.P.V. virus is not available. What is available is a miscellanea of different and debated approaches which always require a tight follow up, or eventually a change in the therapeutic strategy in the presence of the always feared relapse and\or of an unfortunate iatrogenic outcome. Specular features can be described in the partner, who has a 45–60% probability to contract the disease.

The actual therapeutic approaches are trying to treat the identifiable lesions, to reduce signs and symptoms, to prevent the consequences, to restore the morphological physiology of the tissues, to prevent the transmission. All of the above, considering that the H.P.V. infection, as known, can interest a much larger area than the one identifiable by the clinical lesions; up to date there are no clinical studies that can document a reduction of the incidence of such

infection by the deletion of its lesions; such strategy indeed results more from the common sense than from controlled scientific observations. The above rationale let us understand how aleatory is the prevention of relapse or transmission. Moreover, all the therapeutic strategies available at the moment do not help restoring the morphological physiology of the tissue.

The surgical presidia applied against the H.P.V. include Laser- surgery CO_2, Radio-frequency (Leep), Cryotherapy, Electro-surgery, CoId- blade bistouries. In terms of healing these methods lead to equivalent result, in percentage values that fluctuate between 70% and 90% following the first application. The first mentioned technique is the most expensive due to the high costs of the equipment as well as of the operator long training required. The medical presidia applied against the H.P.V. include the cytotoxic therapy, which consists in the administration of Podophyillin and Podophyllotoxin, Trichloracetic Acid, 5-Fluorouracil, and the immunomodulating therapy via the use of interferon (alpha, beta, gamma), retinoids, cytokine inducers, Imiquinod, and Vaccines (tetravalent or bivalent) certainly very expensive and just partially covering the risk of infection.

None of the mentioned treatments is able to eradicate the virus. To the scope, the vaccine, although very futuristic, represents a hope. During the third national congress ESIDOG-O9 the need of a combined approach has clearly emerged, which include the synergistic usage of different presidia in combination with the destructive or excisional surgical therapy. Regardless the therapeutic choice, between the 10% and 15% of the patients relapse for several years.

PERIANAL PAGET'S DISEASE

The first case of perianal Paget's was reported in 1893, by Darier and Coulillaud, 19 years after Sir James Paget first described the characteristic breast lesion in 1874. Unlike Paget's disease of the nipple, which invariably is associated with an underlying ductal carcinoma, a subjacent or visceral malignancy, usually of the apocrine gland type, is found in 20% of patients who present with perianal Paget's disease. So far, fewer than 120 cases of perianal Paget's disease have been described in the literature. The majority of the reported cases have appeared as case reports, so it is not easy to estimate the frequency with which it manifests. Treatment is usually regarded as surgical, although most authors describe local recurrences even after extensive local resections. Local recurrence and morbidity from surgery, especially in the elderlly. can be high. Radiation therapy, as the primary treatment modality, is seldom used in this condition and the few reports that do include radiation poorly describe treatment selection, radiation dose, field size, treatment technique, beam energy or the outcome of treatment. A case of perianal Paget's disease is reported here in a patient successfully treated with radiation after four unsuccessful surgical resections.

Perianal Pagel's disease is a rare condition. It occurs more commonly in women than in men and usually starts in ihe fifth decade or thereafter. Unlike

Paget's disease of the nipple, which is always associated with a subjacent breast adenocarcinoma, a primary carcinoma of other organs, principally rectum, cervix uteri or urethra and also more distant organs such as breast, is found in only 20% cases of perianal Paget's disease. Clinical features of perianal Paget's disease include erythematous, crusted or scaly areas which may weep clear serous fluid. These areas may resemble atopic eczema or contact dermatitis. The margins of the lesions are usually well demarcated, slightly raised and erythematous. Lichenified, leucokeralolic or leucoplakia-like patches may also develop in some patients. The duration of symptoms can be very long as in the case presented here and there is usually a history of multiple unsuccessful attempts at dermatological treatment. Any rash in the ano-genital area that is not responsive to 6–8 weeks of topical therapy should be biopsied.

Histologically, perianal Paget's disease is identical to Paget's disease of the breast. Paget's cells appear lo be uniquely epidermolropic. They spread laterally within the epidermis, and the deepest eells hug the basal lamina without showing tendency to breach it, although extension of inlraepidermal Paget's disease to produce an underlying carcinoma has been documented. The cells slain positively for acid as well as neutral mucopolysaccharides and may contain melanin granules. Expression of c-ErbB-2 oncoprotein may play a role in promoting intraepithelial spread of adenocarcinoma cells.

Most authors recommend surgery as the treatment of choice. Extended surgical excision for non-invasive lesions and excision of rectum or abdominoperineal excision for invasive disease or lesions associated wilh an adnexal carcinoma is recommended.

Most authors recommend surgery as the treatment of choice. Extended surgical excision for non-invasive lesions and excision of rectum or abdominoperineal excision for invasive disease or lesions associated with an adnexal carcinoma is recommended.

Butler et al recommend that radiotherapy has no place in treatment because of high recurrence rale after its use. On the contrary this case report demonstrates that even extensive lesions can be salvaged with radiation therapy after surgical failure.

Besa el al make a strong case for the use of primary radiotherapy for patients not considered suitable for surgery, and for the use of postoperative radiotherapy following resection. They observed a 36–66% rate of positive margins after surgical excision alone in their series of 65 patients with exlramammary Paget's disease of the perineal skin. The ability of surgery adequately to control a multicentric widespread process is limited and likely to be associated with considerable morbidity or functional impairment. In such cases, radiation therapy may be a reasonable alternative or adjunctive treatment in selected cases. When radiotherapy is used as primary treatment, photon or electron field directed to localized region of the perineum have achieved local

control. The advantage of using an electron beam is lo spare deeper structures since only superficial structures are at risk. For lack of electron facility in the department, the present case was treated on a kilo volt age unit using 300 kV photons. Perianal Paget's disease is probably best regarded as an intraepithelial adenocarcinoma, so the dose and fractionation used in this case was as for treatment of skin malignancies. Use of radiotherapy for treatment of perianal Paget's disease has been limited and the few reports that include radiation poorly describe treatment selection, radiation dose, field size, treatment technique, beam energy or the outcome of treatment. Recurrences following radiation therapy occurred mainly in patients receiving less than 50 Gy, so Besa et al recommend doses greater than 50 Gy. The treatment was delivered with minimal morbidity although their follow-up was short and the numbers small. The case described here had acute discomfort from delayed healing of the radiation reaction but follow-up at 10 years showed acceptable late radiation sequelae, with no loss of anal sphincter function, which frequently follows wide excision in this region.

Paget's Disease of Vulva

This curious and rare lesion of the vulva, and sometimes the perianal region, is similar in its skin manifestations to Paget disease of the breast.

1. As a vulvar neoplasm, it manifests as a pruritic red, crusted, sharply demarcated, map like area, occurring usually on the labia majora. It may be accompanied by a palpable submucosal thickening or tumor.

2. The diagnostic microscopic feature of this lesion is the presence of Paget cells, large tumor cells lying singly or in small clusters within the epidermis and its appendages. These cells are distinguished by a clear separation ("halo") from the surrounding epithelial cells and a finely granular cytoplasm containing periodic acid-Schiff stain-, Alcian blue-, or mucicarmine-positive mucopolysaccharide.

3. Ultrastructurally, Paget cells display apocrine, eccrine, and keratinocyte differentiation and presumably arise from primitive epithelial progenitor cells.

4. In contrast to Paget's disease of the nipple, in which 100% of patients show an underlying ductal breast carcinoma, vulvar lesions are most frequently confined to the epidermis of the skin and adjacent hair follicles and sweat glands.

5. The prognosis of Paget's disease is poor in the uncommon cases with associated carcinoma, but intraepidermal Paget's disease may persist for many years, even decades, without the development of invasion.

6. However, because Paget's cells often extend into skin appendages and may extend beyond the confines of the grossly visible lesion, they are prone to recurrence.

7. It is considered as nothing more than a variant of Vulval intraepithelial neoplasia

MALIGNANT MELANOMA

1. Melanomas of the vulva are rare, representing less than 5% of all vulvar cancers and 2% of all melanomas in women.

2. Their peak incidence is in the sixth or seventh decade;

3. They tend to have the same biologic and histologic characteristics as melanomas occurring elsewhere and are capable of widespread metastatic dissemination.

4. Because it is initially confined to the epithelium, melanoma may resemble Paget's disease, both grossly and histologically.

5. It can usually be differentiated by its uniform reactivity, with immunoperoxidase techniques, with antibodies to S100 protein, absence of reactivity with antibodies to carcinoembryonic antigen, and lack of mucopolysaccharides.

6. Prognosis is linked principally to depth of invasion, with greater than 60% mortality for lesions invading deeper than 1 mm.

7. Treatment is by wide excision or radical vulvectomy.

8. The overall survival rate is less than 32%, presumably owing to delays in detection and a generally poor prognosis for mucosal melanomas.

BOWEN'S DISEASES

- In 1970 Lloid describes this dermatosis for the first time like "multicenter pigmented Bowen' s disease of the groin".
- Subsequently, in 1978, Wade introduced the term "Bowenoid Papulosis" (BP) in order to describe such pathology that is placed between Acuminate Condylomata and Bowen' s disease.
- In the same year Kimura describes a clinical case of viral pigmented papulosis of genitals.

Ethiopatogenesis

1. The BP ethiopathogenesis is not well understood still today.

2. HPV has been linked closely to BP. HPV is a very small DNA-virus with specific tropism for keratinocytes and the mucosas;

3. The more demonstrated in the lesions trough hybridization in situ viral genotypes are: HPV 16, HPV 18, HPV 31, HPV 32, HPV 33, HPV 39, HPV 42, HPV 48, HPV 51.

4. The infection by HPV 16, HPV 18, HPV 31 is an important factor of risk for the squamocellular carcinoma in situ, above all in HIV+ patients and in general in immunodepressed.

Frequency

- BP lesions are related clinically to genital warts. They share the same age of onset and are transmitted sexually.
- Since BP lesions frequently are treated destructively as warts and without histopathologic examination, the true frequency of BP is unknown but is believed to be underestimated.

- A number of case reports associate BP with malignant invasive transformation (2.6%).
- All races are affected equally.

Clinical manifestations

1.The young adults (average age 31 years), sexually active, hetero- and homosexual, are hit, with a light female predilection.

2.The lesions interest more frequently the genital, perianal and perineal areas, but in HIV+ patients also extragenital regions.

3.The morphology is very variable: warty, pink or brown or violet, well delimited macula-papulas, 2–30 mm in diameter; frequently asymptomatic, but it's possible also itch, erythema, hyperpigmentation and inflammation.

Histopathological features

1.The granular layer is thicken defined with hyperkeratosis, parakeratosis and dyskeratosis.

2.Cellular atypia:

a) pleomorphic keratinocytes, hypercromatic and amassed magnified nucleous; some of them with numerous nuclei;

b) koilocytosis (it's a cytoplasmatic vacuolation around the thickened nuclear chromatin);

c) numerous mitotic figures and cells in metaphase;

d) if the lesion is coloured, melanin-laden cells;

e) often altered acrosyringia;

f) always integral acrotrichia.

Differential diagnosis

The most important are Bowen's disease and the Condylomatosis of the genitals.

Bowen's disease

The Bowen's disease differs for the following clinical and histopathological characteristics:

- has its highest incidence in the older age groups ;
- arises mainly in sun-damaged areas;
- usually single lesion;
- it never disappears spontaneously;
- erythematous, scaly patches or plaques that may become hyperkeratotic, crusted, fissured, or ulcerated;
- full tickness dysplasia with loss of the normal maturation of its components;
- large pale keratinocytes with abundant ground glass cytoplasm, so-called pagetoid cells;
- integral acrosyringia;
- altered acrotrichia;

Acuminate condylomata

- mainly occur on the genital, perianal and perineal regions;
- flesh-coloured papular lesions;
- cauliflower lesions;
- hyperkeratosis, parakeratosis, acanthosis;
- koilocytosis;
- viral inclusions in the cytoplasm and the nucleous;
- absence of neoplastic change

Course

The course is very variable:

- sometimes BP can spontaneously regress;
- in the immunodepressed patients it's possible a carcinomatous transformation;
- after the first therapeutic assistance relapses are frequent.

Medical Care

For specific guidelines and recommendations, please see "British Association of Dermatologists' guidelines for the management of squamous cell carcinoma in situ (Bowen's disease). These were determined by the British Association of Dermatologists in 2014.

Each treatment modality has advantages and disadvantages. Choosing the best therapeutic option involves an analysis of various factors such as lesional size, number, site, degree of functional impairment, modality availability, and cost. Because most treatments have a recurrence risk, follow-up at 6–12 months is recommended to evaluate for recurrence. Factors that dictate a shorter follow-up period include history of past recurrence, presence of multiple lesions, lesions in high-risk locations, and immunosuppression.

Imiquimod 5% cream, a topical immune response modifier, applied 3–7 d/wk, appears to possibly be a successful treatment option for Bowen disease. It is often used for larger-diameter lesions, lower leg lesions, and erythroplasia of Queyrat. Two reports indicate sustained clearance with at least 19 months of disease-free follow-up after treatment of perianal Bowen disease with single-agent therapy using imiquimod 5% cream. Topical treatment for perianal Bowen disease may minimize the risk of scarring, poor wound healing, and functional impairment. The ideal dosing regimen is still under investigation, but the most studied regimen at this time is imiquimod 5% cream once daily for 16 weeks.

Consider x-ray or grenz-ray radiation therapy for poor surgical candidates or patients with multiple lesions. It should be avoided for lower extremity lesions due to impaired healing.

Photodynamic therapy (PDT) has also been used, with variable success, for the treatment of Bowen disease. Photodynamic therapy involves the introduction of a photosensitizing agent into the body, which is retained preferentially by the tumor cells. Then, a light source is used to stimulate the

photosensitizing agent, causing the release of toxins and leading to the destruction of the tumor. Topical 5-aminolevulinic acid (ALA) or methyl aminolevulinate (MAL) are the most commonly used photosensitizers. Various illumination sources, wavelengths of light, and dosing schedules have been used. PDT is well-suited for large lesions, multiple lesions, and poor-healing sites. The adverse effects include local phototoxic effects such as burning and stinging and, rarely, erosions, ulceration, and hyperpigmentation hypopigmentation. Treatment guidelines are available from the Norwegian University of Science and Technology.

Surgical Care

Simple excision with conventional margins

This surgery is the most common and preferred treatment for smaller lesions and those not in problematic areas, such as the face and digits. For perianal Bowen disease, excision with wide margin is recommended. Lower leg lesions are often limited by the lack of skin mobility.

Although lesions are typically well demarcated, the actual extent of the disease may be well beyond the clinical margins. For this reason, the excision should be made at least 4 mm outside the clinical margin.

Mohs micrographic surgery

This is an excellent method for larger lesions, poorly demarcated lesions, recurrent lesions on the head and neck, or areas where tissue sparing is vital, such as digital or genital lesions. Mohs micrographic surgery uses the systematic surgical removal of skin cancers with very small margins of normal tissue followed by frozen section examination of nearly 100% of the tissue margin.

It offers the highest cure rate of all treatment modalities, and, because relatively thin layers are taken only in areas of proven tumor, it is a tissue-sparing procedure.

Curettage and electrodesiccation, cryotherapy, and laser ablation

These are blind surgical methods (no pathologic confirmation of removal) that are established treatment modalities for Bowen disease.

As compared with excision and Mohs surgery, they are less likely to remove tumors that are present down adnexal structures.

Curettage and electrodesiccation is a common and safe modality. Treatment efficacy is largely determined by the skill of the clinician. It is also one of the most cost-effective treatment modalities.

Cryotherapy is another common therapeutic option, especially for single and small lesions. Suggested regimens in the literature include a single 30-second freeze-thaw cycle, 2 freeze-thaw cycles of 20 seconds with a thaw period, or up to 3 single treatments of 20 seconds at intervals of several weeks. The risk of poor wound healing (eg, hypopigmented scarring) increase with prolonged freezing times. Treatment of broad lesions is often limited because of patient discomfort.

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Навчальне видання

Модуль 2
Хірургічна гастроентерологія
Тема 15
Захворювання м'яких тканин промежини

Методичні вказівки для студентів та інтернів

Упорядники Криворучко Ігор Андрійович
Красносельський Микола Вілєнович
Тонкоглас Олександр Аркадійович
Тесленко Сергій Миколайович
Сивожелізов Андрій Володимирович
Чеверда Віктор Михайлович
Балака Святослав Миколайович
Сикал Микола Олександрович
Чугай Володимир Васильович
Повеличенко Марина Сергіївна
Гончарова Наталя Миколаївна
Гоні Самха-Катерина Тахірівна
Гоні Сімеха-Аліна Тахірівна

Відповідальний за випуск Тонкоглас О. А.

Комп'ютерна верстка О. Ю. Лавриненко

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Редакційно-видавничий відділ
ХНМУ, пр. Леніна, 4, м. Харків, 61022
izdatknmu@mail.ru, izdat@knmu.kharkov.ua

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Module 2.
Surgical Gastroenterology

TOPIC 15
THE DISEASES OF THE SOFT TISSUES OF THE PERINEUM

Guidelines for students and interns