Review Article

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BENIGN VULVOVAGINAL CYSTS: A SYSTEMIC REVIEW STUDY

Jayasree Geothe*

Professor, Department of Pathology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanyakumari (Dist), Tamil nadu.

ABSTRACT Objective: Strongyloides stercoralis is an intestinal nematode parasite, endemic in tropical and subtropical regions. It can occur without any symptoms, or as a potentially fatal infection. But once diagnosed, the disease can be treated effectively with antihelminthic drugs like Ivermectin. Duodenal obstruction is an underreported, poorly recognized complication of Strongyloidiasis stercoralis infection. Though endemic in few developing countries, lack of classical syndrome and features of autoinfection, hyperinfection make the diagnosis of strongyloidiasis very difficult. Case Report: This review article summarizes an unusual case of duodenal obstruction in 80 year-old Indian male caused by S. stercoralis alongwith various aspects of strongyloidiasis, with emphasis on epidemiology, life cycle, clinical manifestations and diagnostic aspects. Conclusion: Since the case clinically masqueraded as intestinal malignancy, the importance of simple stool examination and the role of pathologist in identifying the parasite are hereby highlighted.

KEYWORDS

Vulvovaginal Cysts, Trichomoniasis, Vaginitis Emphysematosum

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***Corresponding Author** Jayasree Geothe

Professor, Department of Pathology, Sree Mookambika Institute of Medical Sciences, Kulasekharam, Kanyakumari (Dist), Tamil nadu. jayageothe@yahoo.com

Introduction

Cystic lesions of the vagina are relatively common problem for women, causing significant pain, discomfort and impact on quality of life. They may be related to embryological derivative, ectopic tissue or urological abnormality, may get infected or give rise to tumors. Awareness of the various diagnoses of benign cystic lesions of the vagina and associated abnormalities will aid in further evaluation and treatment. Vaginal cysts can present at any age as small asymptomatic lesions to as large as 10 cm or as multiple cysts enough to cause urinary obstruction. Vaginal bulge, pelvic pressure, dyspareunia, and stress urinary incontinence may be the other presentations1. Even newborn girls can present interlabial cysts with a prevalence of ranging from 1:1000 to 1:7000 most common types being, hymenal cysts and paraurethral gland cysts, as thin-walled, golden or whitish simple cysts2. In early development, mesonephric and paramesonephric ducts do coexist. Mesonephric ducts develops into bladder trigone in both sexes In men, under the influence of testosterone, mesonephric duct develops into epididymis, vas deferens, seminal vesicle In women, absence of testosterone causes duct regression. But this may be incomplete and persists as inclusions/remnants and later become functional and give rise to embryonic cysts.

A careful, well-focused physical examination, including appearance, color and location of the mass in relation to the urethral meatus and vaginal opening, can help the clinician to distinguish lesions that require aggressive intervention from those that self-resolve and merely require observation. When simple cysts are suspected, evaluation of the upper urinary tract is not required, and neither aspiration of cyst contents nor a marsupialization procedure is necessary. Radiological imaging ultrasound, CT scan, voiding cystourethrogram, and MRI are useful in diagnosis especially to assess urinary tract involvement, particularly in patients with known urinary tract malformations3. Radiological assessment is also essential to identify presence of other cysts that was not readily apparent at physical examination4.

Differential diagnosis of cysts

Differential diagnosis of cysts of vagina includes cystocele, rectocele, tumors, Vaginitis emphysematosum, and hematocolpos due to hymenal atresia Vaginitis emphysematosum is an uncommon condition seen in pregnant or women in 2nd to 4th decades as group of gas-filled psuedocysts on the vaginal wall ,in a pattern similar to pneumatosis of the intestines or bladder. This may be associated immunosuppression, trichomoniasis or haemophilus vaginalis infection Histological examination showed the cysts contained pink hyalin-like material, foreign body-type giant cells in the cyst's wall, with chronic inflammatory cells. The gas-filled cysts are identified with CT imaging. The gas contained in the cysts has been analysed and found to consists of nitrogen, oxygen, argon, carbon dioxide, and sulfur dioxide(6). It is benign and self-limited and does not signify the presence of tissue necrosis or life-threatening infection the cysts appear grouped but defined from one another, smooth, and can be as large as 2 cm. The absence vaginal rugae over the cyst are a clue to their presence.

Treatment is determined by the severity of symptoms. Many cysts remain small, are followed closely by a clinician, needs Sitz bath therapy or may resolve on their own .Bartholin's duct cysts and gland abscesses are common problems in women of reproductive age often need to be drained where the goal of management is to preserve the gland and its function through procedures including insertion of a Word catheter for a duct cyst or gland abscess, and marsupialization of a cyst Excisional biopsy is reserved for use in ruling out adenocarcinoma in menopausal or perimenopausal women with an irregular, nodular Bartholin's gland mass5. Even though vaginal cysts are clinically similar they can be of mesonephric/paramesonepric/ urogenital sinus origin/acquired in origin and so are histological different. It can get complicated with infections, prolapse or can confuse with malignancy but appropriate evaluation will clinch the diagnosis easily.

7. Table-1: Features of common cystic lesions are compared chart

LESION	ORIGIN	LOCATION	MICROSCOPY	COMMENT
Müllerian	parameso nephric duct cysts	Any site commonly lower anterolateral vaginal wall	secretory epithelium as endocervix/ uterine/ fallopian tube	The most common embryonal vaginal cyst

Gartner's duct	mesonephric or wolffian duct	lateral aspects of the upper vagina	Non secretory, columnar epithelium	may be associated with urinary tract abnormalities
Mucous cyst of the vestibule	Urogenital sinus epithelial	Labia minora, vestibule, periclitoral area	Single layer of tall columnar epithelium	solitary / multiple; asymptomatic/ less than 2 cm cyst with smooth surface
Inclusion cysts	Trauma/surgery	Labia majora & lower posterior	squamous epithelium and contain keratin	the second most common.
Bartholin's duct cyst	obstruction duct	Vestibule	transitional epithelium and with mucus glands in the cyst wall.	the most common cyst of vulva in reproductive age
Skene's duct cyst	Female prostate gland	Adjacent to urethral meatus in vestibule	a stratified epithelium, ranging from squamous to columnar types, with prevalence of basophilic cells	Benign, asymptomatic; if large, may cause urethral obstruction and infection
Cyst of the canal of Nuck	Patent pouch of peritoneum	Labia majora, mons pubis	single-layered mesothelial cells.	Compressible mass entrapped within round ligament; mimic inguinal hernia
Endometriosis	metaplasia	dark blue or brown nodule posterior vaginal fornix	Endometrial glands and stroma	excision or laser vaporization /medical Rx
Hidradenoma papilliferum	Benign tumor of apocrine sweat glands	Perianal,region labia majora and minora	Classical histology	slow-growing, small nodule

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