



## Etiology Of Vaginal Discharge In School Going Children Attending Out Patient Department In A Tertiary Care Hospital

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### Abstract

Vaginal discharge is often encountered in clinical practice .It is the most common cause of visits to the gynecologist in preadolescent and adolescent girls. It is a cause of concern for the guardians and patients who often mistake it to be pathological and go for unnecessary investigations and treatment. The benign nature of the discharge needs to be explained to the parents and the patients, because the majority of cases have been proven to be physiological. The normal commensal flora of the perineum cause discharge only in case of impaired host defense mechanisms. These impaired defenses occur due to hormonal imbalances. Specific infectious agents are isolated in a minority of cases. Reassurance and maintenance of perineal hygiene are required in a vast majority of cases. Treatment with antibiotics is required in a minority of cases.

**Keywords:** discharge, commensals, perineum

### Introduction

Vaginal discharge remains the commonest gynecological complaint in children. Vaginal discharge is mostly physiological. The most common etiology of pathological vaginal discharge in children and adolescents is vulvo-vaginitis. Children especially pre-pubertal children are especially vulnerable to vulvo-vaginal inflammation owing to certain anatomic, physiological and behavioral factors.<sup>1234</sup>

The anatomy and physiology of female genitalia in children across various age groups varies differently. Because of maternal estrogenic influence, the newborn female has a full labia majora and labia minora and the mucosa appears moist and pink. With the growth of the child, both the labia majora and labia minora become relatively thin and the vaginal mucosa becomes atrophic. These changes occur because there is a dearth of maternal estrogen after infancy and the child secretes estrogen only after puberty.<sup>5</sup> Third change occurs at puberty which includes thickening of labia majora, labia minora and

vaginal mucosa. In addition to this, hymen also thickens, urethra becomes prominent and the clitoris enlarges. Furthermore, the close proximity of vaginal mucosa and rectum, the immature vaginal epithelium and hygiene factors place the children at increased risk of vulvo-vaginitis. The commonest cause of a pathological vaginal discharge in children is vulvo-vaginitis. Other causes of vaginal discharge in children include foreign body, sexual abuse, labial adhesions, and vaginal agenesis. Sexual abuse should be strongly considered in any case of vaginal discharge that is persistent and blood-stained<sup>5</sup>.

### Material And Methods

It was a prospective observational study conducted in the department of Obstetrics and Gynecology Government Medical College Anantnag which is a tertiary care hospital and an associated hospital of Government Medical College Anantnag. All patients below the age of 12 years who attended OPD with a diagnosis of vaginal discharge were eligible for the

study. Children who had systemic illness, HIV and immunosuppression were excluded from the study. The study was completed over a period of one year. We entered the following points in the history of patients in a predesigned proforma.

1. Dysuria
2. Frequency
3. History of prolonged antibiotic use
4. Bleeding per vaginum
5. Perineal hygiene
6. History of any chronic systemic illness etc

We performed the clinical examination of patients after taking informed consent from guardians and

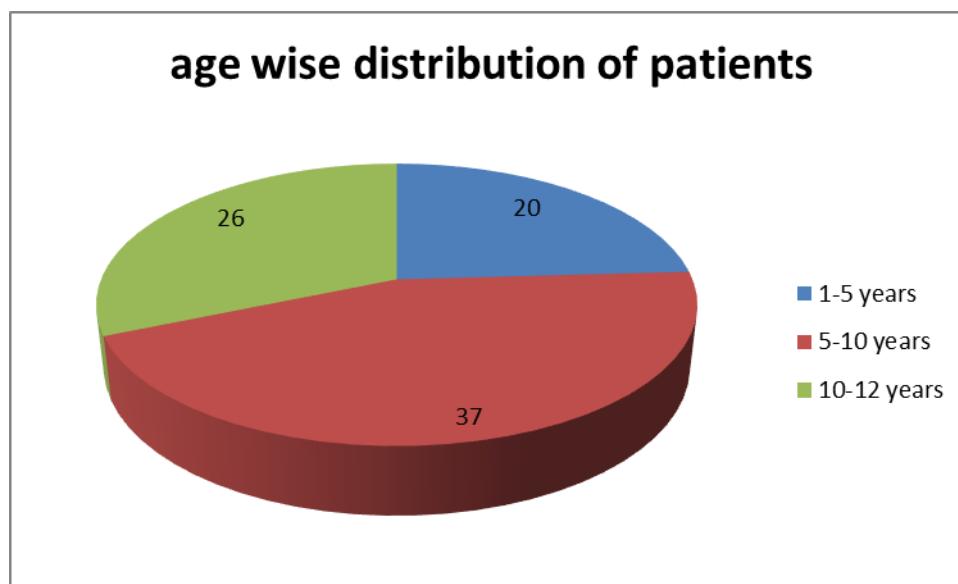
parents of children. Patients were placed in frog-leg posture assisted by the guardians/parents. Local examination was done and samples were sent for microbiological and chemical analysis. These samples were taken from lower third of vagina and introitus. Local examination was done to look for erythema, edema and other coexistent skin diseases. A KOH mount was taken from suspected cases to detect fungal hyphae. Discharge was also examined for presence of ova and cysts. HIV and syphilis screening was done in select cases. Data was tabulated on excel spreadsheet and patients were categorized age-wise, gender wise and results were interpreted.

**Results**

We encountered a total of 83 patients in our study. Age wise distribution of patients is given below

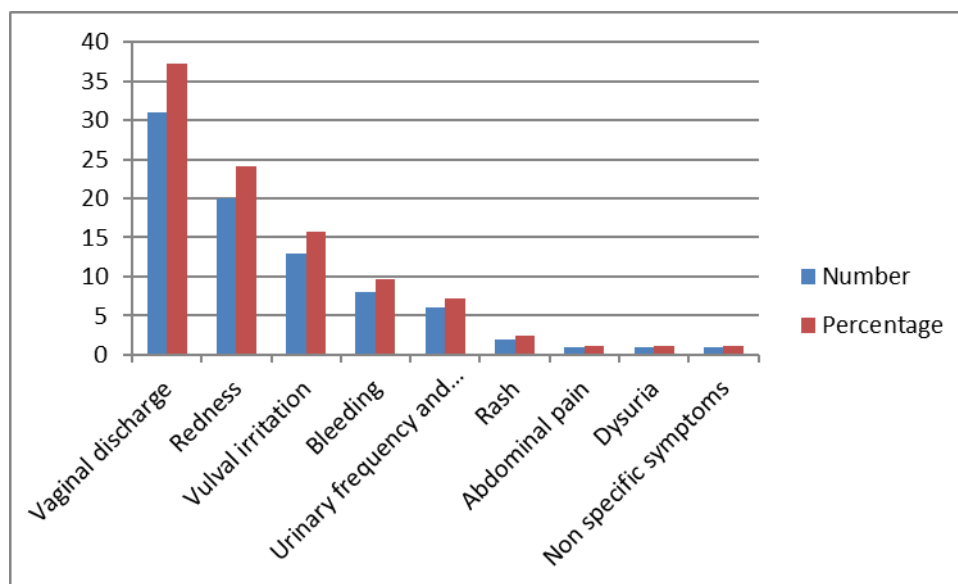
Age group	Number	Percentage
1-5 years	20	24.1 %
5-10 years	37	44.6%
10-12 years	26	31.3%

Presenting symptoms in decreasing order of frequency were tabulated as under



Presenting symptom	Number	Percentage
Vaginal discharge	31	37.3

Redness	20	24.1
Vulval irritation	13	15.7
Bleeding	8	9.6
Urinary frequency and hesitancy	6	7.2
Rash	2	2.4
Abdominal pain	1	1.2
Dysuria	1	1.2
Non specific symptoms	1	1.2



Discharge was categorized as either physiological or pathological depending on whether organism was isolated from techniques employed and presenting symptoms.

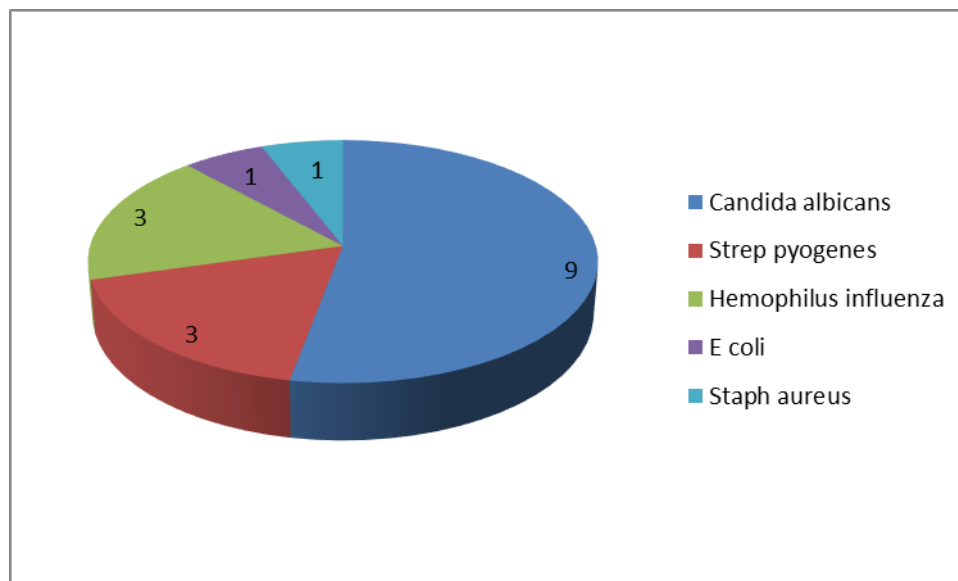
Physiological discharge	60 (72.28)
Pathological discharge	23 (27.71)

Positive microbiological findings were tabulated by the type of organism isolated and identified by Maldi TOF system. Isolated organisms were classified into specific pathogens and non pathogenic organisms. Non pathogenic organisms identified were fecal flora (e.g, streptococcus fecalis n=5), skin flora (staph epidermidis n=2) , oral flora ( streptococcus oralis n =1) and nasopharyngeal flora ( n=1) .

**Specific organisms isolated were the following**

Candida albicans	9
Strep pyogenes	3
Hemophilus influenzae	3

E coli	1
Staph aureus	1



**Discussion**

A detailed history and thorough clinical examination is of paramount importance to elucidate the etiology of vaginal discharge in school going children. Obtaining a proper history and performing a clinical examination can be challenging for the primary care pediatrician. The child’s physical age and maturity needs to be taken into account before performing the questionnaire<sup>7</sup>

The pubertal status determines the vaginal micro-flora. Commensal organisms like lactobacilli, diphtheroids and gardnerella are usually absent in pre-pubertal girls which paves way for pathogenic and opportunistic bacteria to colonize the vaginal epithelium.<sup>8</sup>. Our study showed vaginal discharge alone, genital redness, soreness and bleeding to be the commonest etiologies of vaginal discharge.<sup>9-12</sup>.This was in accordance with studies conducted by Bumbuliene Z et al 2014.

Vaginal discharge is primarily physiological in majority of cases as shown in studies conducted by Kim H et al 2016 .Our study also showed vaginal discharge to be physiological in more than 70 % of cases. Hence the need for careful evaluation of vaginal micro-flora cannot be underestimated because the organism isolated could be a part of commensal vaginal flora. Specific treatment of vaginal discharge is indicated only if there is a high

rate of growth of a particular non commensal organism in pure culture<sup>13</sup>.In our study the most commonly identified organism was Candida albicans which was isolated in nine patients. This was followed next in frequency by Streptococcus pyogenes. Strep pyogenes was also the commonest organism isolated in studies conducted by Joishy M et al 2005. Hemophilus influenzae was the third most common isolated specific infectious etiological agent in our study and in the studies conducted by Stricker T, Navratil F and Sennhauser FH 2003. Foreign bodies should always be considered in cases of recurrent vaginal discharge despite adequate treatment especially in the presence of bloody or offensive vaginal discharge. Bath sponges, cotton swabs and tampons are usually the commonest foreign bodies isolated<sup>16</sup>.

The possibility of child sexual abuse should also be considered while evaluating a child in case of vaginal discharge especially persistent and blood stained<sup>17</sup>.

**Conclusion**

Vaginal discharge is the commonest cause of out-patient visits to the gynecologist in clinical practice. A detailed history, meticulous clinical examination and tailored investigations are the key to arrive at a correct diagnosis and avoid unnecessary patient and parental anxiety. Majority of cases of vaginal discharge are physiological. Pathological causes can

be either commensal organisms or specific etiologic agents. Majority of cases can be managed with reassurance, perineal hygiene and avoidance of contamination and safe perineal cleaning practices. A small minority of patients require treatment.

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