VAGINITIS CAUSED BY B. COLI

by

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Trichomonas vaginalis and Moniliasis are well recognised infective agents causing vaginitis—but all cases cannot be traced to them. A clinico-pathological entity "non-bacterial vaginitis" is a subject of critical assessment in the literature (Allen *et al.*, 1943). Bernstine and Rakoff (1953) and Weaver *et al* (1950) have all contended that non-specific vulvo-vaginitis constitutes a diverse group of vaginal infection which cannot be attributed to any specific pathogenic organism, nor can any cause or effect relationship be postulated between any type of bacteria and non-specific vaginal discharges. More recently, however, haemophilus vaginalis has been regarded as an important pathogen in the etiology of "non-specific vaginitis" (Gardner and Dukes, 1955 and 1959; Edmunds, 1959; Gray and Barnes, 1965). Viral infection in the vagina has been reported as a new causal agent (Agarwal and Dhir, 1969; Jones, 1961; Dunlop *et al*, 1967; and Di Virgilio *et al*, 1965).

Several bacteria are blamed in each individual case and the most commonly mentioned are staphylococci, streptococci, micrococci and diphtheroids (Hite *et al*, 1947; Bernstine and Rakoff, 1953; Weaver *et al*, 1950; Allen and Baum, 1943; Seigler, 1946; Duncan, 1947; and Blinick *et al*, 1949).

In children B. coli vaginitis has been described as a cause of non-specific vulvo-vaginitis (Curtis, 1914). There are several authors who have found B coli in vulvo-vaginitis but do not consider them to be pathogenic (Curtis, 1914; Gray and Barnes, 1965; Weaver *et al.* 1950; Hite *et al.* 1947 and Blinick *et al.* 1949). None of the authors have specifically incriminated coliform organisms in non-specific vulvo-vaginitis. These studies have definitely suggested the existence of this organism but have denied its significance in pathogenicity.

This communication aims at presenting 25 cases of non-specific vaginitis with troublesome vaginal discharge in adults where the investigation and therapy showed that the discharge was specifically due to B. coli infection.

Material and Methods

Twenty-five cases of intractable vaginal discharge from amongst 485 patients who attended the outpatients clinic are presented here.

A careful history was obtained to bring out the relevant clinical features. Vaginal discharges were studied by fresh smears for tricho-

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monas and studies for candida and other organisms were done from stained smears and cultures.

The doubtful specimens were cultured to establish the nature of the bacterial organisms. On the basis of the results obtained specific therapy was instituted.

Observations

The twenty five cases presented here were suffering from bad smelling discharge. The repeated swabs and cultures for trichomonas and candida were found negative. The non-specific therapy with triple sulpha cream application to the vagina had proved of no use.

In these cases the discharge was profuse and purulent, leaving stains on the clothes. It was fishy in odour, produced soreness on the thighs and vulva and kept the patients constantly wet. The patients were markedly depressed and their marital life was disturbed. There was a complaint of dyspareunia in six cases and irregular and scanty periods in eight cases.

The discharges were cultured for bacteriological studies. B. coli were grown which were found to be most sensitive to streptomycin. One gram of streptomycin intramuscularly, once a day, was administered to these patients for 7 days. The discharge cleared up and there was marked improvement in the general condition of the patient. Subsequent cultures of the discharge after treatment were negative for B. coli. In eight patients with menstrual irregularity and scanty blood loss, the cycles became regular with normal blood loss.

All the patients remained symptom free thereafter. However, there was a recurrence of the discharge in five patients after a varying period of 6 months to 2 years. The culture showed colonies of B. coli again which were sensitive to streptomycin. Streptomycin, 1 gm., was given intramuscularly again for 7 days. Two patients are symptom free since then for well over four years and the remaining three for over six months, the period they have been under observation.

Discussion

Vaginal infection causing leucorrhoea is one of the most common infective conditions met with in gynaecological practice in this country. In a fairly large number of cases, the causative agent can be isolated. Trichomonas and Monilia are the commonly encountered causative agents. Patients with these infections usually present a typical clinical picture and can be easily identified. There still remain a fair number of cases where no specific causative pathogen is found. Such cases are grouped under the term of non-specific vulvovaginitis. More recently attempts have been made to identify the causative organisms in this non-specific group. Some cases have been found to be of viral origin (James, 1969; Dulop *et al*, 1967 and Divirgilio *et al*, 1965). The viral aetiology is now finding general acceptance. In spite of a large number of cases of non-specific vaginitis in this contry, Agarwal and Dhir (1969) are the only workers who have been able to isolate TRIC (Trachoma and Inclusion conjunctivitis) agents from the genital tract and that too in a very small number of cases. Attention has been

focussed on Haemophilus vaginalis as a causative agent in some of the cases of non-specific vaginitis. Gardner and Dukes (1955 and 1959) have been able to fully establish a cause and effect relationship between Haemophilus vaginalis and vulvo-vaginitis. Specific therapy directed against these organisms has also confirmed this hypothesis. Several workers are now publishing their data on Haemophilus vaginalis infection leading to vulvo-vaginitis. Gray and Barnes (1965) have re-emphaized the value of this pathogen.

Curtis (1914) was the first to point out that B. coli vaginitis occurs in children. In spite of the isolation of B. coli from several cases of so called non-specific vaginitis, none of the workers blamed it as a pathogen in this condition (Curtis, 1914; Hite *et al*, 1947; Blinick *et al*, 1949; Weaver *et al*, 1950; and Gray and Barnes, 1965). Why B. coli was not considered pathogenic by these workers is not clear but it seems that since B. coli is a member of the normal flora of the genital tact its importance in producing vulvo-vaginitis has not been realised. Recent advances in microbiology have clearly established the fact that under certain circumstances where host resistance is lowered even normal bacterial flora can assume pathological significance. This is particularly true of staphylococcus albus, fungi and B. coli group of organisms.

It is a well known fact that B. coli infection of the urinary tract is quite common. In some cases asymtomatic bacillurea has been recognized which has later on led to sinister consequences in the urinary tract. A parallel can be drawn in the cases under review. B. coli, as stated earlier, has been reported as a non-pathogenic organism in the genital tract, but it seems that under changed circumstances when the resistance of the vaginal mucous membrane is lost vaginitis is caused by these organisms.

In our cases bacterial culture revealed the presence of B. coli in 25 cases forming about 5% of the total number of cases of vaginitis. This figure does seem to be significant. Sensitivity tests and the results of subsequent therapy left us in no doubt that B. coli which was hitherto considered as non-pathogenic was the causative agent in these cases. It is, therefore, suggested that in all cases of vaginitis, particularly when ordinary causative agents are not detected, bacteriological culture and antibiotic sensitivity tests should be done. The cases under review support this suggestion. Further support of this view is provided by the increasing number of reports of vaginitis due to Haemophilus vaginalis (Gray and Barnes, 1965), which like B. coli was considered to be non-pathogenic.

Looking at the clinical picture in retrospect, absence of pruritis (in all cases), scanty menstrual flow and foul smelling menstrual discharge in cases of non-specific vaginitis should arouse a suspicision of a B. coli infection as the most probable cause.

Summary

1. 25 cases of intractable vaginal discharge where B. coli were detected on cultures and whose sensitivity to antibiotics was tested are presented from a series of 485 cases.

2. B coli which were cultured were found to be most sensitive to streptomycin.

3. These cases were treated with streptomycin 1 gm. by intramuscular injection, once a day for 7 days.

4. The discharge stopped and the patients were relieved of symptoms.

5. There was relapse of discharge in five patients.

6. Normal menstrual rhythem and flow were restored in eight patients after therapy where it was distrubed.

7. It is postulated that B. coli can be responsible for production of Vulvo-vaginitis and causing discharge.

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