

EVALUATION OF ANTIBIOTIC — CORTICOSTEROID THERAPY IN RESISTANT PELVIC INFLAMMATORY DISEASES

by

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Introduction

The introduction of antibiotics has reduced the extent and severity of the pelvic inflammatory diseases. However, there are occasions when the offending organisms buried in granulation tissue are no longer accessible to the available antibiotics.

Because of its lytic action on inflammatory response and its inhibition of granulation tissue, corticosteroids are being tried in a new approach in the treatment of resistant pelvic inflammatory diseases. The anti-inflammatory corticosteroids have been used in heavy doses to dissolve the granulation tissue and allow the circulating specific antibiotics to kill the organisms.

In 1952, Hurtig reported two cases of acute pelvic inflammation treated with cortisone with complete relief, although these patients had not responded to previous specific antibiotic therapy. In 1957, he reported 45 cases of resistant pelvic inflammation treated with corticosteroids and anti-

biotics. Kurzrok and Eugene (1954) Wills et al (1956, 1958), Huter and Hartman (1958), Shah (1960) Bret and Legros (1959), Kurland and Langhran (1961) and other workers have reported encouraging results with this therapy.

Method of Study

A study was undertaken on the evaluation of antibiotic-corticosteroid therapy in resistant pelvic inflammatory diseases, in the Gynaecological department of the All-India Institute of Medical Sciences, New Delhi, during the period 1st May 1960 to 31st May 1961. Patients with chronic pelvic inflammatory diseases, who had no relief from previous treatment with douches, pessaries, tablets, creams, shortwave diathermy, electro-cautery, non-specific protein therapy, chemotherapeutic agents or antibiotics and who were symptomatic for more than six months were included in the study.

A detailed history was taken and complete examination, including pelvic and pelvi-rectal examinations, was done in every case. Examination of the discharge from the cervix was carried out before and after treatment. In every case premen-

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strual endometrial biopsy was done to exclude endometrial tuberculosis.

The treatment was given for 12 days as follows:

	Total dose
1. Tetracycline 250 mg. 6 hrly. for 12 days	12 Gms.
2. Triamcinolone in divided doses for 10 days from 3rd to 12 day	212 mg.
40 mg. daily for 2 days (10 mg. 6 hrly.)	
30 mg. daily for 2 days (10 mg. 8 hrly.)	
20 mg. daily for 2 days (10 mg. 12 hrly.)	
10 mg. daily for 2 days (10 mg. O.D.)	
8 mg. for 1 day (8 mg. O.D.)	
4 mg. for 1 day (4 mg. O.D.)	

The patient was also given vitamin C 300 mg. daily and vitamin B complex tablets and a high protein diet.

Four hourly temperature chart and daily urine output chart were maintained and weekly weight check-up was done during the period of treatment.

On the fifth day of the treatment blood culture was made. Pelvic examination was done on alternate days and improvement or otherwise in signs and symptoms was carefully noted.

Follow up. The patients had weekly check-up in the first month after treatment, fortnightly check-up in the second month and have been coming for check-up every month since then.

Results

During the study period, 5185 new patients attended the gynaecological out-patient's department. Ninety-eight patients were diagnosed as having chronic pelvic inflammatory disease, an incidence of 1.9%.

Out of these 98 patients, 66 were subjected to a routine premenstrual endometrial biopsy. On the basis of

the histopathological examination of the endometrium in those showing granulomas suggestive of tuberculosis, it was presumed that the inflammatory lesion of the fallopian tubes and ovaries was of tubercular origin. Six cases were diagnosed as pelvic inflammatory disease of tubercular origin, an incidence of 9.1%.

Twentytwo patients were selected for the present study.

Pelvic Findings	
Pelvic findings	No. of patients
Bilateral T. O. mass	6
Unilateral T. O. mass	5
Unilateral T. O. mass + unilateral tubal thickening	2
Unilateral T. O. mass and cellulitis	2
Unilateral T. O. mass and unilateral healed parametritis	1
Bilateral tubal thickening	1
Bilateral healed parametritis	1
Unilateral healed parametritis	3
Tenderness in the lateral fornices but adnexa not palpable	1

T.O. Mass = tubo ovarian mass.

Bacteriological Study

(a) Bacteria Isolated from Discharge of Cervix before and after Treatment

Bacteria	No. of patients	
	Before treatment	After treatment
Staph. albus (Coagulase positive)	6	5
Micococci	10	4
Aerobic sporebearers	3	1
Diphtheroids	4	4
No growth	4	4
B. coli	2	
Staph. aureus (Coagulase positive)	1	1
Strep. viridans	1	—
Bact. aerogenes	—	1
B. proteus	—	1
Ps. pyocyanea	—	1

(b) Culture of the endometrium for mycobacterium tubercle bacilli was done in all cases. None of the cultures showed any growth after 8 weeks' incubation in Lowenstein-Jensen medium.

(c) *Blood-culture.* Fourteen blood cultures were done. Blood was taken on the fifth day of the institution of the treatment. After 10 days of culture all were sterile except two which grew staph. albus (Coagulase negative) probably contaminants.

Blood Examination. The total leucocyte count and erythrocyte sedimentation rate were within normal limits in most of the cases.

Response to Treatment. The response to treatment was judged by the improvement in symptoms and findings at pelvic examination. It was termed 'good' when the patient had 75-100% relief in the symptoms and on pelvic examination evidence of inflammation had disappeared completely.

The response was considered

'moderate' when a patient had some relief in symptoms and the clinical examination showed that the pelvic masses had reduced in size and the tenderness had diminished.

Any response less than this was considered 'no response.'

Untoward Reactions. Four patients had untoward reactions.

1. One patient had acute pain in the right iliac fossa on the last day of the treatment.

2. One patient had vomiting once.

3. One patient had muscular weakness.

4. One patient complained of pain in the epigastrium for two days.

Discussion

The actual incidence of pelvic inflammatory disease cannot be established with accuracy even if an attempt is made to determine its occurrence in a limited population. In general, it is supposed that frequency of the disease follows the incidence of gonococcal and puerperal infections,

TABLE II
Immediate Response to Corticosteroids and Antibiotics in 22 Patients

	'Good' response	'Moderate' response	'No' response	Total
No. of patients	3	11	8	22
Percentage	14%	50%	36%	

TABLE III
Follow up of 20 Patients after Corticosteroid and Antibiotic Therapy

	'Good' response	'Moderate' response	'No' response	Total
No. of patients	8	5	7	20
Percentage	40%	25%	35%	

TABLE I
Response to Treatment

Case No.	Name Reg. No.	Extent of pelvic inflammation	Immediate response			Follow-up response			Duration of follow-up
			Good	Moderate	No res- ponse	Good	Moderate	No res- ponse	
1	2	3	4	5	6	7	8	9	10
1.	H. 1322/60	Unilateral tubo-ovarian mass	-	-	+	-	-	+	9 months
2.	K. D. 655/60	Unilateral tubo-ovarian mass	-	-	+	-	-	+	1 year
3.	H. K. 1744/60	Unilateral scarring	-	+	-	+	-	-	6 months
4.	P. 1307/60	Unilateral scarring	-	+	-	+	-	-	7 months
5.	L. 1260/60	Bilateral tubo-ovarian masses	-	-	+	-	-	+	1 year
6.	C. 1348/60	-do-	-	+	-	-	+	-	10 months
7.	L. D. 2303/60	-do-	-	+	-	+	-	-	6½ months
8.	S. 2811/61	Bilateral scarring	-	-	+	-	-	+	9 months
9.	R. K. 3145/60	Unilateral tubo-ovarian mass	-	-	+	-	-	-	-
10.	S. 1952/60	Bilateral thickening	-	+	-	+	-	-	9 months
11.	A. R. 3652/60	Only tenderness in the fornices	+	-	-	+	-	-	7 months

1	2	3	4	5	6	7	8	9	10
12.	S. G. 3616/60	Unilateral thickening + unilateral tubo-ovarian mass	-	+	-	+	-	-	3 months
13.	K. D. 4721/60	Bilateral tubo-ovarian masses	-	+	-	-	-	-	-
14.	D. K. 3745/60	Unilateral scarring and unilateral tubo-ovarian mass	+	-	-	-	+	-	3 months
15.	M. B. 4047/60	Unilateral tubo-ovarian mass + unilateral scarring	-	+	-	-	+	-	3 months
16.	V. 1352/61	Unilateral mass	-	-	+	-	-	+	2 months
17.	D. D. 600/61	Unilateral tubo-ovarian mass + unilateral thickening	-	+	-	+	-	-	3 months
18.	L. 812/60	Unilateral tubo-ovarian mass	+	-	-	+	-	-	3 months
19.	S. K. 867/60	Unilateral tubo-ovarian mass + cellulitis	-	+	-	-	+	-	2 months
20.	S. M. 289/61	Unilateral scarring	-	+	-	-	+	-	2 months
21.	D. 2821/60	Bilateral tubo-ovarian masses	-	-	+	-	-	+	2 months
22.	Z. 1290/61	Unilateral tubo-ovarian mass	-	-	+	-	-	+	2 months

and in this country the treatment by dais has an important role to play. The incidence of chronic pelvic inflammatory disease as seen in the gynaecological department of the All-India Institute of Medical Sciences was 1.9% among 5185 patients.

An attempt was made to exclude from this study cases of pelvic inflammatory disease of tubercular origin. Diagnosis of tuberculous adnexitis was made on the basis of endometrial histology showing granulomas suggestive of tuberculosis. If the endometrium showed evidence of tuberculosis it was presumed that the adnexa were also the seat of tuberculosis.

It is interesting to note that the corticosteroid therapy unmasked a case of tubercular adnexitis. Patient (serial No. 6, C 1348/60), case of bilateral tubo-ovarian masses, had intermittent pyrexia for 9 months and the temperature did not respond to various antibiotics including broad spectrum antibiotics. Within forty-eight hours of the institution of the corticosteroids the temperature touched normal and remained so even after the withdrawal of the drug. The pus drained from the pelvic abscess after the corticosteroid therapy grew acid fast bacilli. Colpotomy had been done four times before the institution of the corticosteroids and the pus was sterile.

Inadvertently three cases of tubercular adnexitis were given antibiotic corticosteroid therapy. There was no flare up of infection in any of the cases. Patient (Serial No. 6, C 1348/60) responded well and since then is taking antitubercular treatment with

gratifying results. Patient (Serial No. 5, L 1260/60) who was improving after the corticosteroid antibiotic therapy, unfortunately had a flare up with secondary infection after a premenstrual endometrial biopsy done nine months later. The third patient (Serial No. 2, K. 655/60) did not initially get anti-tubercular treatment with corticosteroids and the response to the therapy was not good. She has improved after the institution of anti-tubercular therapy.

In cases of tubercular adnexitis it seems a good plan to add corticosteroids in certain carefully selected cases. Corticosteroids in such cases should be given along with anti-tubercular therapy and under close supervision of the clinician.

The role played in pelvic inflammatory disease by organisms specially isolated by culture methods, particularly in the chronic phases of the disease has not been well demonstrated. In the present study staph. albus (coagulase negative), micrococci and diphtheroids are the predominant bacteria in the discharge collected from the cervix. These are non-pathogenic and constitute the normal flora of the vagina and cannot be indicated as the cause of the chronic pelvic inflammatory disease. Seven cultures showed no growth.

It is interesting to note that gonococci were neither found in direct smear examination nor isolated in culture in any patient. The indiscriminate use of antibiotics, specially by the private practitioners, for any type of complaint may have cured the disease inadvertently in many cases. It has also been demonstrated frequently that chronically infect-

ed tubes do not themselves provoke attacks of gonorrhoea. Some instances represent instances of reinfection. Others as suggested by Mohler (1949) may represent actual recurrent inflammation in tissues subjected to anatomic and physiologic disturbances with secondary bacterial infection.

Staph. aureus (Coagulase positive) was cultured in one cervical swab before the beginning of the treatment. But even potentially pathogenic organisms like *staph. aureus* cannot always be the cause of chronic pelvic inflammation.

Patient (K. 655/60), according to the culture and antibiotic sensitivity of *staph. aureus*, was treated with penicillin and corticosteroids. The unilateral tubo-ovarian mass did not resolve.

The results have been gratifying but in no way dramatic as reported by other workers like Hurtig (1952, 1955, 1957, 1960), Collin (1952) and Shah (1960). All these workers treated acute or subacute cases before definite scar tissue was laid down, while patients in this study were in the chronic stage of the disease.

The corticosteroid antibiotic therapy even though costly is not so in the long run. Any drug which gives a hope of curing these chronic patients who are in and out of the hospital every few months, is worthy of trial. The therapy should be given after full investigations and under constant supervision in the hospital. Proper dosage within a safe range will minimize the side reactions.

Addition of corticosteroids to antibiotics in the treatment of pelvic in-

flammatory disease is a novel idea. The results obtained are better in the acute phases of the chronic inflammatory diseases (as shown in the case of C 4348/60) than in the chronic phases where for definite conclusions, larger series with longer follow-up are needed.

Conclusion and Study

Twentytwo patients of resistant pelvic inflammatory disease were investigated and treated with antibiotic-corticosteroid therapy. Treatment was given for 12 days.

Examination of the discharge from the cervix and antibiotic sensitivity tests of the potentially pathogenic organisms isolated only in few cases were found to be of not much help in the treatment of resistant pelvic inflammatory disease.

Blood culture did not reveal any bacteraemia during antibiotic-corticosteroid therapy.

Inadvertently three cases of tubercular adnexitis were treated with antibiotics and corticosteroids. There was no flare up of infection. In one case the antibiotic-corticosteroid therapy unmasked the tubercle bacilli from the pus drained from the pelvic abscess and gave the clue to the diagnosis. It seems good practice to give corticosteroids with the antimicrobial cases of tubercular adnexitis after full investigations and under close supervision in the hospital.

Response to antibiotic corticosteroid therapy has been encouraging. Larger series with longer follow up are necessary before any conclusion can be drawn.

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