CORTICOTHERAPY IN GYNAECOLOGICAL INFECTIONS

by

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The purpose of this paper is to record some observations when corticotherapy is used in conjunction with antibiotic therapy to deal with all types of gynaecological infections. Since the advent of antibiotics, the severity of the gynaecological infections is considerably reduced and the residual pelvic masses are reduced to minimum.

In spite of the powerful antibiotics we possess, there are occasions (1) when infections are resistant to available antibiotics. (2) On other occasions the antibiotics control the general toxemia but the local inflammatory masses persist and take a long time to resolve. (3) There are also occasions where either as a result of inadequate or too late introduction of antibiotic therapy, the inflammatory masses persist. The offending organisms, buried under the shelter of massive and impermeable granulation tissue, are no longer accessible to the immune bodies, leucocytes, and available antibiotics. The masses do resolve ultimately but one observes that the resolution is far too slow. The inflammatory mass becomes subacute and chronic giving rise to various gynaecological symptoms such as menorrhagia, dysmenorrhoea, dyspareunia, sterility, pelvic pain, etc. In such cases, addition of corticosteroids to antibiotics helps one to control the antibiotic-resistant infections and bring about quick and complete resolution of inflammatory masses. After addition of corticotherapy, the inflammatory masses resolve, shrink and almost melt away within 8-10 days and leave a painless pelvis.

Cortisone and ACTH were first introduced for clinical trial in 1949 as the most powerful anti-inflammatory agents particularly for rheumatoid infections, and diseases of the collagen tissue. Corticotherapy then carried many contra-indications, one of them being presence of acute and pyogenic infections in any part of the body. Since this date, the conception regarding the relation of corticosteroids to inflammation has changed considerably and recently the pendulum has swung to the opposite side. Corticotherapy which was contraindicated in case of infection is now used extensively in many infective processes of the body. Recently, corticotherapy has been used most enthusiastically and with great benefit in acute infective processes like typhoid, diphtheria, smallpox,

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tetanus and also in chronic infections like exudative type of tuberculosis and tuberculous meningitis.

Bertrand-Fontaine and Pierre Cheymol in 1952, used cortisone in certain staphylococcal septicemias resistant to all antibiotics. Since then, if one glances at the world literature, one sees that there is present no infectious disease or infective process in which corticosteroids have not been tried with varying results.

Billimoria of Bombay and Ghosh of Calcutta have reported successful treatment of various types of tuberculous infections, when a small amount of corticosteroids was added to the usual anti-tuberculous therapy. In 1952, Hurtig reported the first series of pelvic infections treated with cortisone. The same author in 1956 reported a second series of 45 cases of pelvic infections treated successfully with corticotherapy. Similar reports have been published by Wills in 1956.

Bret and Legros in 1956 used corticotherapy for treating pelvic infections, under similar conditions.

In the present series, I have used combined antibiotic corticotherapy in 20 cases of pelvic infections, mostly post-abortal and post-partum, 24 cases of breast infections and 10 cases of post-operative abdominal wound infections. In all these cases, the antibiotic therapy is given first and usually it is under the umbrella of antibiotics that corticotherapy is started. However, as will be evident from a few reported cases, corticotherapy helps the antibiotics in some way and enhances the antibiotics to control even severe antibiotic resistant infections. Hurtig used an average dose of 300 mg. of cortisone per day (equivalent to 60 mg. of prednisteroids) and used corticotherapy only after antibiotic sensitivity tests were carried out. It has been observed in the present series that such high doses of corticosteroids are not necessary. Most of the infections come under control and respond favourably with an average dose of 10 to 15 mg. of prednisteroids. Secondly, the antibiotic sensitivity tests are not absolutely necessary as corticotherapy when added to the available antibiotic helps to control even antibiotic resistant infections.

In the present series, both prednisteroids (a combination of prednisone and prednisolone in equal proportions) were used but one can use either prednisone or prednisolone or any equivalent corticosteroid. Prednisteroids were chosen because of the minimum side effects and maximum benefits even with small doses. As you are aware, prednisteroids do not give rise to retention of sodium and water in the body. The average effective dose required to control the infection was 15 to 20 mg. on the first day, 10 to 15 mg. on the second day and 6 to 10 mg. a day for 5 to 7 days after which the drug is gradually withdrawn by reducing the daily dose by 2.5 mg. a day. I would like to report one case of post-abortal severe pelvic infection which did not respond to antibiotics and corticotherapy was given hesitantly and as a last resort. I was amazed to get a favourable response. The case which did not show response to various antibiotics for a long time showed a quick and favourable turn for the better after corticotherapy was instituted.

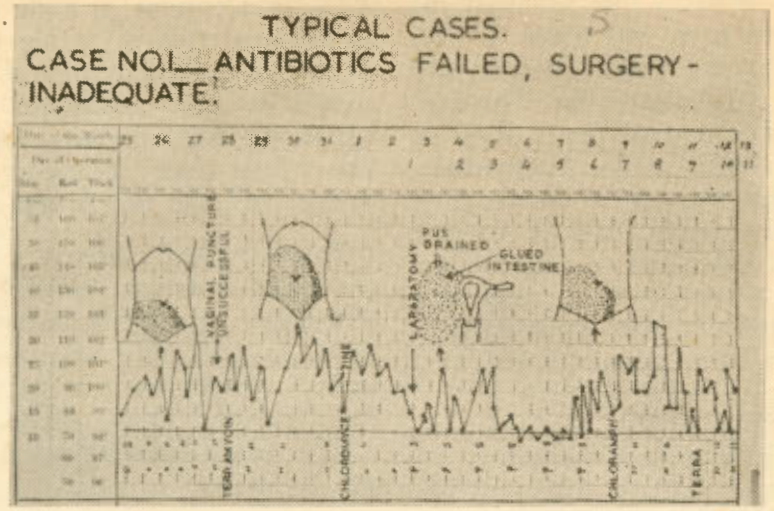

Fig. 1

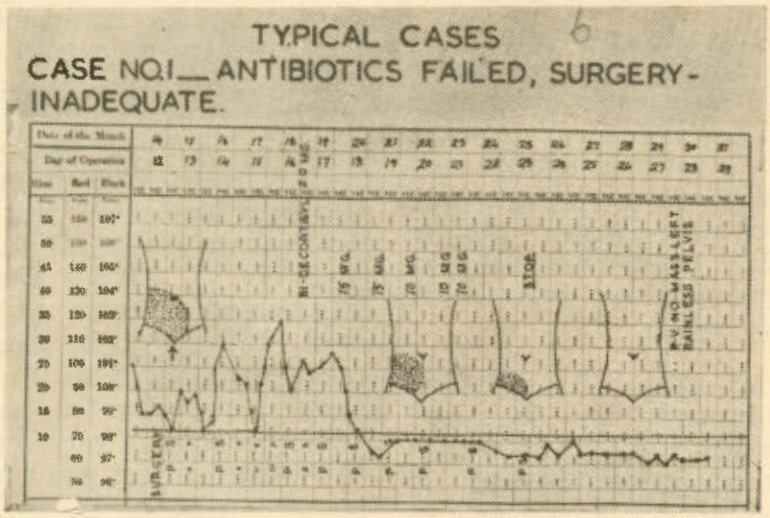

Fig. 2

Case No. 1: Mrs. S. R. M. was admitted on 25th December 1957, with severe post-abortal inflammatory mass extending up to the umbilicus as shown in Fig. 1. In spite of several days of treatment with antibiotics, the mass would not resolve and the temperature did not come under control in spite of different antibiotics used. Drainage through posterior fornix was unsuccessful. Laparotomy showed inflammatory mass extending up to umbilicus and walled all around by glued coils of

intestines. With a few insinuations with fingers here and there, I was able to get at the wall. The pus was drained by a drainage tube. The temperature was normal for 3 days to rise again with wide fluctuations. On the 11th day after laparotomy and an unsuccessful trial of various antibiotics,, I decided to add corticosteroids as a last resort. I was very much afraid that the inflammation might spread as a result of breaking down of protective adhesions and that she might develop general peritonitis with fatal consequences. It was amazing to see that within 40 hours of adding corticotherapy, the temperature touched normal for the first time, and remained normal since then. The infection which was resistant to previous antibiotics, started responding to the same antibiotics when corticotherapy was added. The mass which had extended up to the umbilicus started shrinking and within 8 days there was no sign of it. It just melted away like snow in summer sun. P.V. examination after 15 days showed painless pelvis with fairly mobile uterus.

Case No. 2: Mrs. S. P., following a subtotal hysterectomy, developed pelvic inflammatory mass around the cervical stump on the 10th day of operation. The mass would not resolve in spite of antibiotics including chloramphenicol. 10 mg. of prednisteroids with 1½ gm. of chloramphenicol were given with complete resolution of the mass within a week.

Case No. 3: Mrs. J. B. S. She was brought to me on the 18th day of a pelvic operation with low fever and a marked left parametrial mass which would not resolve in spite of various antibiotics used after the operation. 10 mg. of prednisteroids a day were added to the antibiotic penicillin which she was receiving for 10 days. The whole mass disappeared within 5 days and the pelvis was normal.

Postpuerperal breast infections are quite common, nowadays. The offending organisms in most of the cases are penicillin-resistant staphylococci which are commonly found and cultured from hospital wards where penicillin therapy is daily in use.

It is a common experience to find mastitis not responding to antibiotics. In most of the cases, general toxemia subsides but the inflammatory reaction in the breast persists. It forms a hard sclerotic mass which neither resolves nor spreads nor suppurates as long as antibiotic therapy is continued. This sclerotic encystment persists for a long time. If it is incised at this stage, very little or no pus comes out. It is just a sclerotic mass of granulation tissue which would bleed. In most of the cases if corticotherapy is added to the antibiotic therapy, the sclerotic mass in the breast disappears very quickly. In other cases where pus has already formed, an aspiration of pus or a minimum drainage is necessary. The inflammatory mass around the drainage tube melts away quicker if corticotherapy is added to antibiotic therapy than with antibiotics alone. One is amazed to see how quickly the masses disappear. This combined cortico-antibiotic therapy has been tried in 24 cases of breast infections with quick remissions in all cases.

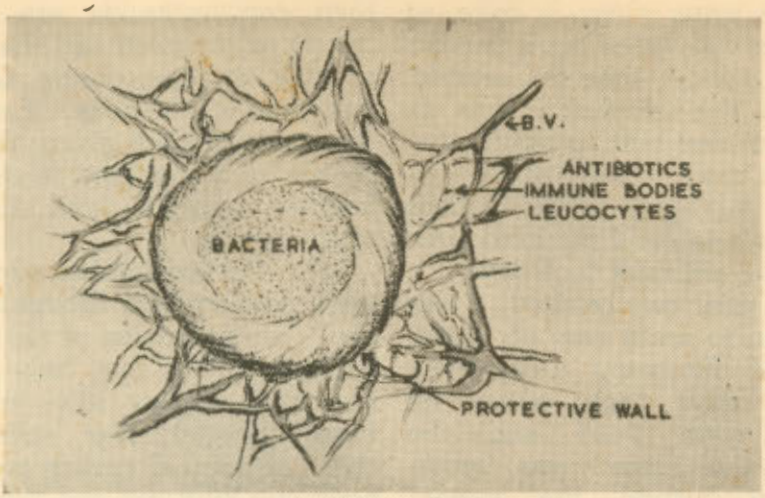

Fig. 3

A Case of Breast Abscess: Mrs. P. M., aged 20 years. Delivered in Goa. F.T.N.D. in July 1958. About 15 days after delivery, she developed acute breast infection on the left. This was treated with antibiotics and later incised. The inflammation showed temporary remission with reappearance of the infection. She was put on various antibiotics one by one and the breast was incised at various places thrice with surgical knife. Once the whole tract of the sinus was cauterized. The abscess persisted for nearly 4 months. As there was no improvement, the patient was advised to go to Bombay for treatment. She was admitted in Motlibai Hospital. On examination it was found that there was a hard indurated sclerotic mass around a centrally situated chronic discharging sinus. The treatment given was as follows: She was put on penicillin, streptomycin, and then with a wide bore needle, about 4 cc. of thick yellowish pus was aspirated. With the same needle, ½ cc. of hydrocortisone acetate was introduced in the abscess cavity. Four days after, a second aspiration was attempted and a serosanguinous fluid came out. Then ½ cc. of hydrocortisone acetate was instilled. Four days later, nothing came out on aspiration and 1 cc. of hydrocortisone acetate was injected. A week later, another 1 cc. of hydrocortisone acetate was injected. The same process was repeated after another week. The patient became perfectly well at the end of 4 weeks of treatment and there was neither any sign of inflammation nor induration persisting in the breast.

My observations are the same as regards post-operative infective induration in abdominal wall around the abdominal incision. The incidence of post-operative sepsis and stitch abscesses has considerably come down after the advent of antibiotics, but still one finds occasional cases where indurated inflammatory masses develop around the incision or

around the sinus where in spite of drainage the indurated mass persists and takes a long time to subside. Very often the infection is due to staphylococci resistant to antibiotics. In all these cases, combined cortico-antibiotic therapy brings about quicker resolution and the hard masses disappear within 4 to 5 days.

A typical case may be cited. I was called upon to see a case of abdominal sinus following a caesarean section 20 days back where all antibiotics were tried and the latest on the scene was synermycin. On putting the patient on combined cortico-antibiotic therapy, the discharge dried away within 48 hours, the temperature was under control within 24 hours for the first time after 18 days of fever and the mass around the sinus just melted away within 4 days, thus saving the patient, the trouble of reopening the sinus and scraping.

The patient who was unable to walk about before corticotherapy was given, was able to move about freely on the third day of corticotherapy and came walking to my consulting room on the 5th day.

Various opinions have been put forward regarding the mechanism of action of corticotherapy in potentiating the antibiotics. A few of them are recorded below:

(1) Corticosteroids act by hormonal substitution (Adrenal Cortex). Severe and virulent infections put severe stress on the body and it is the secretion of adrenal cortex which would help the body to fight this severe stress. If the intrinsically produced corticosteroids by the patient are not enough to fight the stress, then corticosteroids are given by mouth or injection and the patient is capable of overcoming the severe stress put on the body. If extra corticosteroids are not given, the adrenal cortex of the patient might get exhausted, and a fatal termination might result.

(2) Corticosteroids suppress the toxic phenomenon brought about by exo- or endotoxins of the invading bacteria. Thus they help to protect the vital organs like brain cells, heart muscles, liver cells and the cells of adrenal cortex, so that the body can fight out and tide over the crisis.

(3) Corticosteroids act as powerful anti-allergic agents. It is argued that the local inflammatory process in any part of the body is a sort of local allergic manifestation by the body, bringing about aggressive inflammation and formation of massive granulation tissue. Corticosteroids by their powerful anti-allergic properties would prevent and inhibit the formation of masses and local inflammatory granulation tissue.

(4) Corticosteroids act by inhibition of inflammatory phenomenon. The so-called protective local inflammatory reaction by the body, becomes a protective wall that shelters the bacteria from the effects of circulating leucocytes, immune bodies and antibiotics (see Fig. 3). Corticosteroids dissolve the thick massive granulation tissue and allow the circulating leucocytes, immune bodies and antibiotics to kill the offending organisms as they are freed from the shelter of granulation tissue. Thus the favourable action of corticosteroids is explained. It is quite reason-

able to think that this mode of action intervenes when corticotherapy is combined with antibiotics when dealing with local inflammatory masses. The way the massive granulation tissue melts away has to be observed to be believed.

Summary

Combined antibiotic-corticotherapy has been given in 20 cases of pelvic infections, 24 cases of breast infections and 10 cases of post-operative abdominal wound infections.

Four typical cases have been cited in support.

The evolution of corticotherapy in infections is recorded.

The mechanism of favourable action of corticosteroids along with antibiotics is discussed.

Conclusions

It appears from the above observations that today corticotherapy is very useful and beneficial for inflammatory processes. Corticotherapy along with antibiotics should be given as a routine in all cases of infections resistant to antibiotics and also in those cases where the inflammatory masses are likely to persist. Corticotherapy brings about very quick improvement in general condition and progressive and rapid disappearance of inflammatory masses. Corticotherapy enables to avoid thus the formation of painful inflammatory masses compelling surgical intervention.

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