

BREAST ABSCESS

SELECTED CASE REPORTS

THEO. TE WATER NAUDE, M.B., CH.B. (CAPE TOWN)

Casualty Department, Groote Schuur Hospital, and Department of Surgery of the University of Cape Town

Two recent articles^{1,2} have drawn attention to the large number of breast abscesses seen at the Groote Schuur Hospital, Cape Town. Various aspects of the problem of treatment are discussed, including the probable routes of infection, the rôle of maternity homes, the methods of treatment, and the use of stilboestrol, antibiotics, and chemotherapeutic agents.

In this paper 6 cases are presented which serve to illustrate certain aspects of the infection:

CASE REPORTS

Case 1

R.C., Coloured female, aged 29 years. This patient developed a small painful mass in her left breast 3 weeks after the birth of her second child in a maternity institution. Her breasts were small and underdeveloped, lactation was poor, and the child had been bottle-fed after a few unsuccessful attempts at breast feeding. One week later she was referred to the hospital for treatment.

The abscess was incised and drained. Postoperatively there was brisk bleeding from the incision. The blood loss was suffi-

cient to warrant replacement by transfusion. She was discharged the following day feeling quite well. Two days later she was seen again and was now obviously very ill. She had had a rigor the previous day, and was now pyrexial and toxic, complaining of pain in the neck, back and buttocks, and had a persistent headache. On examination her temperature was 102°F. and she had minimal neck stiffness. There had been no further bleeding from the incision. No other significant finding was noted. She was admitted to hospital, blood was taken for culture, and furaltadone was given. Her temperature rose to 105.5°F. and after 48 hours chloramphenicol was administered as well. During this time she developed a mild transient glycosuria. Fasting blood sugar was normal. The fever subsided by lysis within 1 week, but she still had much pain in the lower back. This pain subsequently settled in the right sacro-iliac region. Repeated X-rays ultimately showed changes in the right sacro-iliac joint which suggested early infection. A diagnosis of pyogenic arthritis of the joint was made.

Blood culture, which was positive on the first occasion only, and pus from the breast both showed a *Staphylococcus aureus* with identical antibiotic responses. A similar organism was cultured from nasal and throat swabs from the patient's baby. He subsequently developed a bronchopneumonia from which he recovered.

The patient continued to have pain in the right sacro-iliac region, but this gradually diminished in severity. Furaltadone was continued until the erythrocyte sedimentation rate was normal on the 44th day. She was fitted with a corset and discharged. The breast incision had healed at the end of the second week in hospital. The pain in her back improved gradually until finally, after manipulation, her movements were normal and pain free.

This case illustrates a pyaemia resulting in the formation of a pyogenic arthritis following a lactational breast abscess. It is a rare complication—the only one in our series of more than 500 cases.

Case 2

D.P., Coloured female, aged 22 years. The patient presented with a 5-day history of pain and swelling in her left breast. Two weeks previously her first child had been born at home, with a nurse from a maternity institution in attendance. She had received 5 daily injections of penicillin and streptomycin, and had received parenteral and oral stilboestrol to suppress lactation.

A large abscess involving a major portion of the breast was incised and drained. Furaltadone was prescribed. Large masses of slough were discharged through the incisions, and after 3 days daily dilute eusol irrigations were employed. The haemoglobin level was 10 G. per 100 ml. and iron was prescribed orally. On the 20th day she developed 2 small superficial abscesses, one on her left calf and the other in the right cubital fossa. It was decided that the original incisions were no longer providing adequate drainage, and re-incision with loop drains was accordingly carried out. Erythromycin was substituted for the furaltadone. Three weeks later healing was complete.

This case illustrates the extensive breast-tissue destruction resulting from delay in treatment, and also a transient pyaemic process which subsided without further complication.

Case 3

I.R., White female, aged 22 years. A week after the birth of her first child this patient developed a painful swollen left breast. While still in the maternity home she was treated with penicillin, streptomycin, and oxytetracycline. She was seen 5 days later in the Casualty Department, Groote Schuur Hospital, with a large left breast abscess. Her haemoglobin level was 10.5 G. per 100 ml. Oral iron was prescribed. The abscess was incised and drained. Five days later she still showed constitutional symptoms of the infection and erythromycin was prescribed. On the 9th day the left breast required re-incision and an abscess of the right breast was incised simultaneously. On the 29th day another abscess in the right breast was incised. After this, healing was uneventful and she was finally discharged on the 57th day.

This case illustrates recurrent abscess formation even though the patient was receiving the appropriate antibiotic. This occurs in about 10% of our cases.

Case 4

M.R., White female, aged 23 years. During her stay in the maternity home following the birth of her first child this patient

developed a tender mass in her left breast. She received antibiotics and continued to breast feed her child; the abscess settled, leaving an indurated, non-fluctuant, and pain-free mass. Lactation was normal. Three months later she presented with a painful swelling of the right breast of 2 days' duration. The mass in the left breast was still present and showed no signs of inflammation. The abscess in the right breast was incised and drained, and furaltadone was prescribed. Two days later she required incision of the previously quiescent mass in the left breast. At this time her haemoglobin level was found to be 9.5 G. per 100 ml. She was given a blood transfusion and iron therapy was commenced. On a further 3 occasions incision and drainage of recurrent abscesses had to be carried out. At the last of these the previous incisions were re-incised and multiple adequate loop drains were inserted. After the 29th day novobiocin was substituted for furaltadone. Healing now progressed normally and she was discharged on the 47th day.

Culture of the pus from the breast abscesses and from nasal and throat swabs of her baby showed *Staphylococcus aureus* with identical antibiotic responses. The baby at no time showed any clinical evidence of harbouring the organism.

This case illustrates the formation of recurrent abscesses, notwithstanding the use of antibiotics and chemotherapeutic agents with demonstrated *in vitro* activity against the causative organism. It also illustrates the reactivation of an apparently resolved abscess.

Case 5

M.M., Coloured female, aged 28 years. This patient was first seen 3 weeks after institutional delivery of her first children, twins. Postpartum haemorrhage was excessive and necessitated blood transfusion. During convalescence in the nursing home she developed a painful inflammatory swelling in her left breast which subsided on antibiotic treatment. When she attended hospital her obvious anaemia and the size of the abscess of her left breast were striking. The haemoglobin level was 7.5 G. per 100 ml. This was an iron-deficiency anaemia for which oral iron was prescribed.

She was given a blood transfusion pre-operatively, and at operation 24 oz. of pus were drained, and loop drains were employed. Postoperatively a large portion of the breast parenchyma sloughed through the incisions. Daily dilute eusol irrigations in conjunction with systemic furaltadone were employed. Healing was retarded by the formation of a superficial abscess in the same breast. This was incised and drained, and chloramphenicol was substituted for the furaltadone. She was finally discharged on the 47th day. The breast was considerably smaller than the right. It was non-tender, slightly indurated, and slightly pigmented. The haematological picture was normal.

This case illustrates the extreme anaemia and the extensive tissue destruction that accompanies prolonged pus formation.

Case 6

F.B., Coloured female, aged 20 years. This patient was delivered early one morning in the Casualty Department, Groote Schuur Hospital. Her child weighed 3 lb. 10 oz. and was immediately transferred to the paediatric unit. Postpartum blood loss was negligible. The haemoglobin level was 10 G. per 100 ml., and oral iron was prescribed. A week later she presented with an abscess in her right breast of 2 days' duration. It was incised and drained and furaltadone was prescribed. Uneventful healing was complete by the 15th day and she was discharged.

The interesting features here are the following: The patient spent only about an hour and a half in the hospital. The child was never put to the breast. Lactation was minimal and required no suppression. The patient was anaemic. The response to early treatment was satisfactory.

COMMENT

One feature common to these cases is a greater or lesser degree of anaemia. Certainly the infection itself aggravates the anaemia, but in view of Lanskowsky's³ findings, and the high incidence of breast abscesses seen in the non-European patients attending this hospital, anaemia may well have an aetiological significance.

In the great majority of patients seen at this hospital¹ and in all the cases reported here, the responsible organism is the ubiquitous *Staphylococcus aureus*. In the cases mentioned the organisms had similar antibiotic responses. They were insensitive to the commonly employed agents, viz. sulphatriad, penicillin, streptomycin and tetracycline. It appears that one of the reasons for delaying incision and drainage was that a trial of one or more of these antibiotics was being carried out. The use of antibiotics and chemotherapeutic agents in the treatment of breast abscess is not beyond dispute. Undoubtedly they have real value in treatment of the infection before abscess formation. Engelbrecht¹ showed that there was little to be gained from their use, although the use of furaltadone² produced encouraging results.

It must be stressed, though, that *Staphylococcus aureus* produces powerful exotoxins with potent tissue-destroying properties, and also that the coagulase secretion of this organism tends to reinforce the natural fibrin barrier produced by the host in an attempt to localize the infection.⁴ The abscess thus produced in the resilient tissues of the

breast is well protected from the action of systemic therapy. This is the strongest argument in favour of early definitive treatment of breast abscesses by incision and drainage.

SUMMARY

Six cases of breast abscess selected from a large series are presented to illustrate certain features of the disease. Attention is drawn to the anaemia accompanying the disease. The mode of abscess formation by *Staphylococcus aureus* is mentioned. Early incision of breast abscesses is advocated.

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