

**WOUND DIPHTHERIA IN THE NEWBORN INFANT  
FOLLOWING CIRCUMCISION**

REPORT OF A CASE

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**W**OUND diphtheria is not an uncommon postoperative complication. Grossman and Radice,<sup>5</sup> taking 700 smears from 400 wounds, found the diphtheria bacillus twenty times. It was most common in wounds with a tendency to poor healing. In fact, the diphtheria bacillus was found when it was least expected. Fresh wounds apparently favor the growth of diphtheria bacilli.

Frankenthal<sup>4</sup> states that, in the investigations of 186 nonsuspicious wounds, diphtheria bacilli were found in twenty cases (10.7 per cent). These were, however, secondarily infected operative wounds. These cases had gray-yellow exudates with very poor tendency to healing. In some cases erysipelas played an exceedingly important role, since it preceded the bacillus infection. Other bacteria, such as streptococci, staphylococci, and pyocyaneus, have been found in mixed infections.

The case of a child, 21 months of age, who, after having been vaccinated against smallpox, developed wound diphtheria in the thigh, is reported by De Haas and Wolff.<sup>3</sup> The diagnosis was confirmed both bacteriologically and by animal experiment. Recovery followed the use of antitoxin.

Linde<sup>7</sup> in 1934 reported a case of a 74-year-old woman who had diphtheritic or diphtheroid infection of the wound following appendectomy with fatal termination.

In 1932 Nigam,<sup>8</sup> subsequent to the removal of a rib for tuberculous caries, found the diphtheria bacillus in the exudates around the sinus. The glands in the axilla and groin were enlarged and painful. Prompt treatment with antitoxin and antiseptic dressings locally brought rapid relief.

Wound diphtheria following circumcision is reported by Hasbrouck<sup>6</sup> in a 3-year-old child. The indication for circumcision was a tight prepuce with very little opening. Following the circumcision, 2 per cent carbolized oil was applied. About forty hours later an exudates was observed covering the wound area, and erysipelas was spreading rapidly

to the abdominal wall. Cultures from the throat and wound proved to be diphtheria. **The patient died on the eighth day.**

Another case of diphtheria of the penis is reported by Bailey.<sup>4</sup> In this instance, the patient, a barber, aged 26 years, consulted the physician for the complaint of a swollen penis. A foul-smelling exudates was noted within the sulcus. The culture proved positive for Klebs-Löffler bacillus. Antitoxin was administered, and the patient made an uneventful recovery.

#### REPORT OF CASE

E.P. was born on June 11, 1940. He was a first child and delivery was normal. His weight was 3,430 Gms. His general condition was good. The genitals were normal and the skin was clean.

The parents requested circumcision, and this was performed on June 19 by the family physician who delivered the infant.

The following day, June 20, 1940, the infant was sent home with the notation on the chart that the circumcision was healing and that the baby was in good condition.

On July 30 the infant was brought to my office because there was a tendency to poor healing of the circumcised area. Examination was negative except for related findings.

To the right of the umbilicus, about 1 cm away, a small area of denuded skin with an exudates was noted. At the frenal area of the penis was an exudates about 1 cm in diameter and very adherent. It was impossible to remove this exudates entirely. The skin surrounding the corona and shaft was edematous, swollen, and painful. The inguinal glands were somewhat enlarged.

A small amount of the removed exudates was sent to the laboratory for culture. The following day the report came back as positive for Klebs-Löffler bacillus.

*Treatment.*—Ten thousand unites of diphtheria antitoxin were injected into the right gluteal region, and local wet antiseptic dressing was applied. On August 3 definite separation of the exudates around the edges of the wound was noted. The exudates to the right of the umbilicus also was separating. By August 8 the wounds were clean and practically healed. Recovery was complete.

#### COMMENT

The source of this Klebs-Löffler infection could not be traced. Examinations of parents and aunt of this newborn infant were found to be negative. At the hospital, all the nurses have periodic throat cultures taken and any nurse who complains of any soreness of the pharynx is immediately removed from the nursery. **The setup for circumcision is ideal, since all dressings, instruments are sterilized in a container and kept sterile. The physician who performs the circumcision is required to prepare as for a major operation. The belief is that the wound became infected at home, perhaps from clothes, dressings, or the hands of persons who changed the daily dressings.**

#### SUMMARY

A case of wound diphtheria following circumcision is reported.

The infection occurred in a breast-fed baby in the newborn period of life, an unusual time. After six weeks of non-healing, complete cure was effected by the administration of diphtheria antitoxin.

#### REFERENCES

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