

ACTINOMYCES INVASION OF PLACENTA AS A POSSIBLE CAUSE OF PRETERM DELIVERY

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Summary: In the last few years actinomyces has aroused great interest in gynecologic practice.

Two cases of preterm delivery in which placental histological examination revealed massive invasion by actinomycetes accompanied with necrotizing placentitis are described.

INTRODUCTION

Pelvic infections by actinomyces are increasingly associated with women carrying intrauterine devices (IUD) ⁽¹⁻³⁾.

During the past few years, reports have suggested that some infections previously attributed to fungi are actually caused by actinomyces ⁽⁴⁾. Two cases of actinomyces placental invasion during pregnancy are reported in this study. To the best of our knowledge this is the first report of this nature in literature.

CASE REPORT

Case 1. H.R. a 22 year old woman gravida II, para 0, abortions 1, no previous use of IUD. She was admitted at 30 week's gestation complaining of contractions.

The physical examination and routine laboratory investigations were normal. Urine and vaginal cultures were sterile.

The cervix was closed and without any effacement. Regular contractions were recorded on cardiotocogram despite bed rest. Ritodrine hydrochloride was administered intravenously followed by an oral maintenance dose. Steroid regime was undertaken for the acceleration of fetal lung maturation. At 34 week's gestation the patient went into spontaneous labor delivering a 2410 g male infant, apgar 6/9. The infant was released on his tenth day because of jaundice. The mother was released on the fourth postpartum day.

Case 2. D.S. a 21 year old woman, gravida II, para 0, abortion 1, never carried IUD.

Due to cervical incompetence, suture of cervix was performed on the twelfth week of gestation using the McDonald technique.

Pregnancy course was uneventful until her admission to hospital at 31 week's gestation complaining of regular contractions. On admission, physical examination and laboratory investigations were normal. The cervix was 80% effaced and 2 cm dilated. The treatment included removal of suture due to cervical effacement and regular contractions. Ritodrine hydrochloride was administered intravenously followed by an oral maintenance dose, concomitantly with steroids. At 35 week's gestation the patient entered spontaneous labor without premature rupture of the membranes and delivered a 2300 g male infant, apgar 7/9. The neonatal and postpartum course were uneventful. Mother and infant were released on fourth postpartum day.

The histological examination of both placentas revealed severe necrotizing chorioamnionitis, placentitis of chorionic plate with actinomyces invasion, proved by immunofluorescent staining, chronic villitis and vasculitis of umbilical cord (fig. 1) were noted as well.

DISCUSSION

Actinomyces are anaerobic to microaerophilic, gram-positive, non acid fast bacteria which show isolated branching of filamentous organisms (fig. 2). Differentiation from fungi can be established by a diameter of each bacterial branch which is 0.3 micron versus 3 micron *Candida Albicans*.

Actinomyces are normal inhabitants of the oropharynx and the bowel. Recently

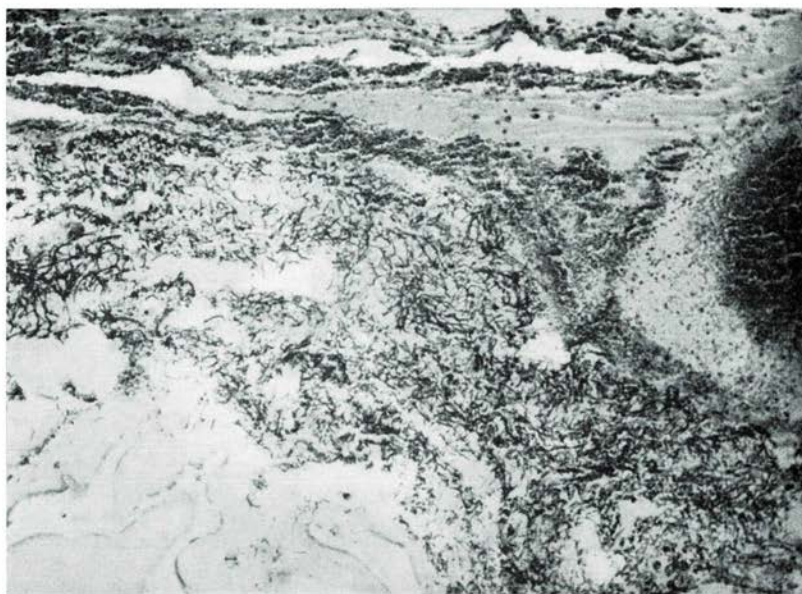


Fig. 1. — Placentitis of chorionic plate with actinomycetes invasion (Haematoxylin and eosin $\times 160$).



Fig. 2. — Isolated filamentous branching forms of actinomycetes (Haematoxylin and eosin $\times 160$).

there has been evidence of their presence in normal vaginal flora of asymptomatic women with and even without IUD⁽⁵⁾. They are inhibited by penicillin or tetracycline and not by antifungal agents⁽⁶⁾.

The clinical symptoms are usually mild but a few cases of pelvic mass that required laparotomy were described⁽⁷⁾.

Accurate diagnosis is based on anaerobic culture, special stains⁽⁸⁻⁹⁾ and immunofluorescent staining. Generally, the immunofluorescence techniques for identifying microorganisms are simple, rapid and universally available. In the case of actinomyces, however, sera are not commercially available except for a few qualified laboratories.

In our cases, culturing of the microorganism was impossible, the diagnosis of placental actinomycetes invasion was based on the morphological identification of the actinomyces using special and immunofluorescent stainings.

We think that the massive placental invasion by actinomyces accompanied by severe necrotizing chorioamnionitis, placentitis and vasculitis were the causes for the premature contractions eventually leading to premature delivery.

It might be advisable to re-evaluate our attitude towards premature contractions. Regular examination of vaginal smears should include anaerobic culture for actinomycetes identification in those women with abortion history, PID, cerclage and those who carried IUD in the past. Adequate antibiotic therapy should be considered to prevent premature deliveries where actinomyces are identified.

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