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Case report

Essential prolonged and hypertonic contractions

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Summary

Spontaneous hypertonic and prolonged contractions (essential hypertonus) do exist, as illustrated in this case report. Conservative treatment can be used, if the fetal heart rate pattern remains normal.

essential hypertonus; fetal heart rate; conservative treatment

Introduction

Normal and abnormal uterine activity has been investigated for more than 30 years [1]. We still do not fully understand, however, the physiology and pharmacology of the pregnant uterus [2]. One of the less understood forms of abnormal uterine contractions is the 'essential hypertonus'. Although mentioned as a possibility [3], some authors do not accept its existence [4]. This is the first documented case report of a woman with spontaneous essential prolonged and hypertonic contractions.

Case report

The woman is a 29-yr-old secundipara. Her first pregnancy was uneventful. During this second pregnancy she was treated with ritodrine, from 29 to 37 wk gestation, for premature contractions. At 38 wk pregnancy she was admitted in spontaneous labor at 4 p.m. The cervix was 1 cm dilated with complete effacement. The fetus presented with a vertex position in Hodge II. At 6.40 p.m. a first spontaneous hypertonic and prolonged contraction occurred with a concomitant prolonged deceleration. The fetal heart rate (FHR, external tocography) declined to 54 beats/min for 8 min. By putting the patient in the side position, the FHR returned to normal with a good beat-to-beat variation (Fig. 1). At 9.20 p.m. another spontaneous hypertonic contraction occurred with a prolonged deceleration which

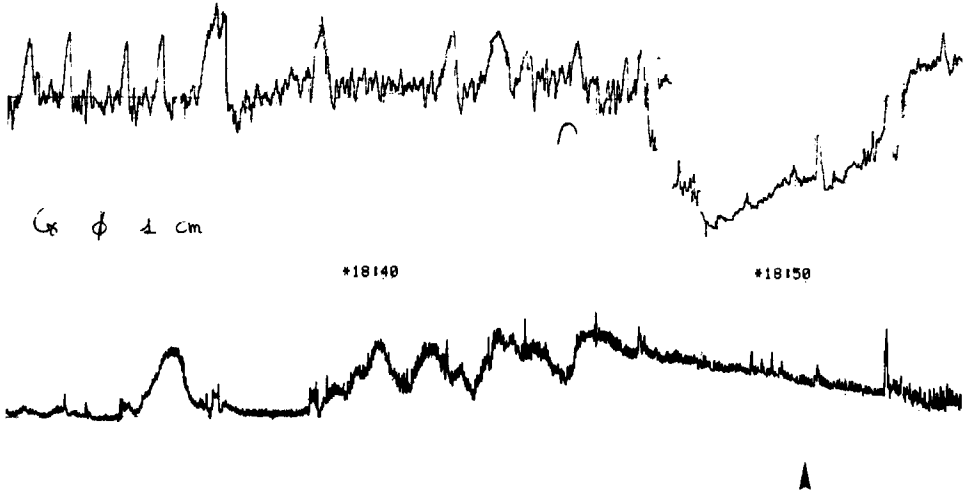


Fig. 1. External recording of uterine contractility and fetal heart rate. A prolonged deceleration occurs during a spontaneous hypertonic and prolonged contraction. ▲ indicates when the patient was put in the side position.

normalized rapidly after putting the patient in the side position. The cervix was still 1 cm dilated and amniotomy was performed, revealing clear amniotic fluid. A fetal pH determination was not performed because of the clear amniotic fluid and the rapid recuperation of the FHR. At this moment the discussion arose as to whether a cesarian section should be done. Because of the good beat-to-beat variation, the

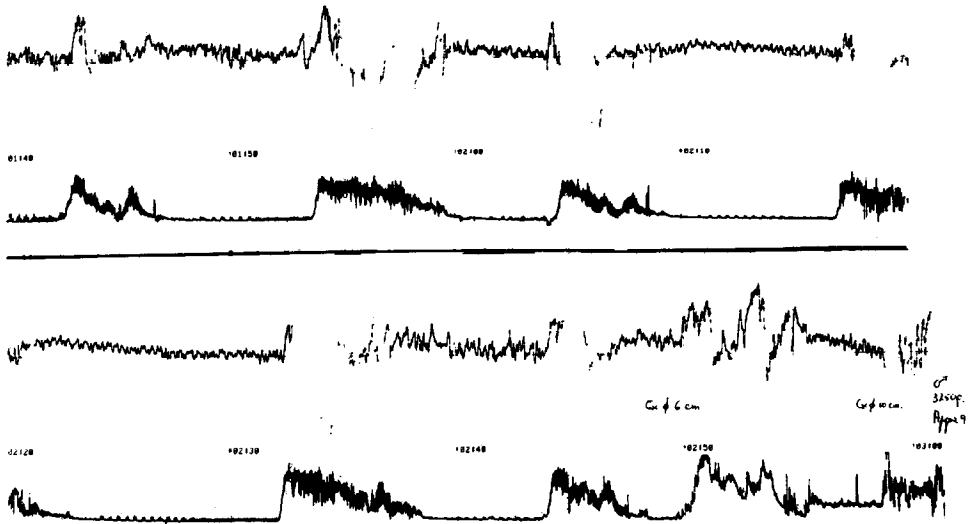


Fig. 2. External recording of uterine contractility and fetal heart rate demonstrating that each contraction was spontaneous, hypertonic and prolonged.

good fetal movements, the quick disappearance of the deceleration in the side position, it was decided that a cesarian section should not be performed yet. One hour later the contractions became regular but were consistently hypertonic and prolonged. Every 10–15 min a contraction lasting for 5–7 min occurred (Fig. 2). The cervix progressed quickly from 6 cm to full dilatation within 30 min and at 3.00 a.m. a healthy boy, 3250 g, was born, Apgar 9 at 1 min. The placenta weighed 500 g and was macroscopically normal.

Discussion

The term 'hypertonic contractions' designates a contraction of increased duration or increased amplitude. The mechanisms known to cause hypertonic contractions are either a rise in the frequency of the uterine pacemaker firing [5] as caused by oxytocic drugs [6] or incoordination [7] and/or hypercontractility of the myometrium as caused by paracervical block anaesthesia [8]. Because hypertonus impairs the perfusion of the placenta, it is generally complicated by fetal hypoxia and acidosis, resulting in a prolonged deceleration of the FHR [9]. The advocated treatment is as follows: First of all the patient must be changed to the side position [10]. If the FHR does not return to normal, i.v. fluid loading, oxygen administration by a tight face mask and uterine relaxants can be given, e.g. ritodrine, 10 mg, or fenoterol, 50 μ g slowly i.v. [11]. Also MgSO_4 , 20% 1–3 g slowly i.v., or epinephrine 1/100 000 diluted in 10–15 ml, slowly i.v. [9] can be given. If fetal distress is not quickly resolved instrumental delivery or a cesarian section should be performed.

We describe the first case report of a woman with spontaneous hypertonic contractions. The duration of these contractions was 5–7 min. Because external tocography was used, the possibility of an increased amplitude could unfortunately not be investigated. The first hypertonic contractions were complicated by prolonged decelerations of the FHR, which were quickly resolved by putting the patient in the side position. During the last 3 h of labor, only hypertonic contractions occurred, with a rapid cervical dilatation and without fetal heart rate abnormalities.

In conclusion, we describe a woman with spontaneous hypertonic contractions and an otherwise normal pregnancy and delivery. Since this syndrome has not yet been documented, this case report is presented in order to prevent obstetricians being over-anxious, as we were, when confronted with this syndrome.

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