

# MONOAMNIOTIC TWINS WITH A COMMON UMBILICAL CORD

## (Case Report)

by

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Case reports of monoamniotic twins have been described in the literature (Quigley, 1935; Kirk and Callagan, 1946; Pickering, 1946; Coulton *et al*, 1947; Corner, 1955; Tafeen *et al*, 1960; Raphael, 1961; Wensinger and Daly, 1962). Some of these may have resulted during the course of pregnancy by joining together of two original amniotic sacs. These pregnancies can go to term and deliver. They have higher perinatal mortality due to cord complications. The case described here by us is different and resembles that quoted by Stephen *et al* (1969). These monoamniotic twins have a common umbilical cord going to the placenta and forking and going to each foetus.

### Case Report

Mrs. P.M., age 35 years, was admitted on 4th April 1969 at 11-15 p.m. with complaints of five months amenorrhoea with bleeding per vaginam since one day. She was para five, gravida seven. She had five normal full-term deliveries. The last delivery was seven years ago. She gave history of one abortion of three months about 16 years ago. There was no significant past illness and present obstetric history was uneventful. On examination the pulse was 96 per minute and blood pressure was

100/70 mm. of mercury. She was averagely built and nourished. Abdominal examination revealed a uterus of about 20 weeks' gestation. On vaginal examination products were felt in the vagina. The internal os of cervix was open. Her haemoglobin was 10.0 G. per 100 ml. The urine showed normal findings. It was an inevitable abortion and intravenous oxytocin drip was started with five units of oxytocin per five per cent glucose in 500 ml. distilled water. The abortion was completed after one hour.

Examination of the products revealed a single placenta and one amniotic sac. The umbilical cord was attached to the placenta near the centre and was seen bifurcating and going to each foetus as seen in the photograph. The cord going to one foetus was normal while that going to the other was having umbilical hernia containing foetal intestines. Both foetuses were male and their fibroblasts were chromatin negative. One foetus weighed 45 gms. and crown rump length was six and a half cms. The other showed maceration and weighed 69 gms. and crown rump length of eight and a half cms. The karyotyping could not be done due to lack of facilities. The section of the main cord and its branches showed one umbilical vein and two arteries.

### Discussion

Stephen *et al* (1969) have quoted seven cases of forked umbilical cord in monoamniotic twins including his own case. The formation depends when the separation of twins occurs. If it occurs within three days of fertilization it results into diamniotic, dichorionic twins.

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If it occurs between seven and 13 days, then it results into monoamniotic twins with forked umbilical cord. If the separation occurs after 13 days then a conjoined twin is formed. According to Benirschke (1965) the membranes are diamniotic and monochorionic but may be diamniotic and dichorionic.

There are two theories as to the mode of origin of monoamniotic twins:

(1) Primitive union theory: There occurs duplication of embryonic rudiments of germ disc with common amnion.

(2) Primitive duality theory; Two fetuses are formed with separate amnion but later in course of development the septum between two amniotic sacs disappears resulting into a single amniotic sac.

In the present case there has occurred incomplete cleavage of the germ disc with common umbilical cord. It is a stage in between complete cleavage of the germ disc (monoamniotic twins with separate umbilical cord) and partial cleavage (conjoined twins).

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See Fig. on Art Paper XIV