Management of patients when a Papyraceous Fetus has been diagnosed guideline (GL881)

Approval

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<tr>
<th>Approval Group</th>
<th>Job Title, Chair of Committee</th>
<th>Date</th>
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<tbody>
<tr>
<td>Maternity &amp; Children’s Services Clinical Governance Committee</td>
<td>Mr Mark Selinger, Consultant Obstetrician</td>
<td>10th January 2014</td>
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Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Author, job title</th>
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<tr>
<td>1.0</td>
<td>Dec 2011</td>
<td>P Street (Consultant Obstetrician), S Kausar (Registrar in O&amp;G)</td>
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<td>P Street</td>
<td>Review due</td>
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Objectives:

1. Antenatal and postnatal management of patients who have been diagnosed with a Papyraceous fetus on scan in pregnancy
2. Management of patients diagnosed to have a Papyraceous fetus after delivery.

Overview

Fetus Papyraceous only occurs in multiple pregnancies. With the continuing refinements and the broad use of ultrasonography in early pregnancy have helped to confirm that what was once considered extraordinary is, in reality, a relatively frequent event (10-40%). The incidence is reported to be 1:184 twin births (≈1: 12 000 live births).

The fetus usually dies before 20 weeks’ gestation and becomes compressed and mummified between the amniotic sac of its co-twin and the uterine wall. The disappearance of gestational sacs or embryos after documented fetal heart activity in multiple pregnancies is known as the “Vanishing twin phenomenon”.

It occurs in both spontaneously conceived and in ARTs pregnancies. Studies have showed similar frequencies for its occurrence following spontaneous reduction to singleton from twin pregnancy (12% of dichorionic and 11% of monochorionic twins).

It is also important not to forget the iatrogenic causes like multi-fetal pregnancy reduction for its development.

There is an increase in adverse obstetrical outcome after the vanishing twin/triplet phenomenon. This might be due to early implantation crowding, resulting in an unfavourable implantation site with uteroplacental insufficiency. It has also been proposed that the vanishing twin phenomenon may be responsible for some cases of isoimmunisation developing during pregnancy in which rhesus-positive fetus disappears in a previously unsensitized rhesus-negative mother.

Diagnosis

In the early pregnancy, it is easy to misinterpret as additional gestational sacs. Hence, correct diagnosis of twin pregnancy by experienced sonographer is essential. USS may sometime completely miss the diagnosis.
Differential diagnosis
- Extra embryonic coelom
- Sub chorionic haemorrhage
- Hydropic change in chorionic villi
- Decidual reaction in second horn of bicornuate uterus

Outcomes
- The prognosis for continuing a pregnancy associated with the vanishing twin phenomenon is good, regardless of the chorionic status especially in first trimester demise.
- A co-twin dying earlier in pregnancy may be absorbed completely and the pregnancy may advance without any disturbance.
- When the intrauterine death occurs in the second trimester, the dead fetus usually results in a fetus Papyraceous and the co-twin continues to be alive near term.
- The death of one fetus may be associated with minor malformations of the surviving one. After delivery of twin pregnancy, the detailed check-up of the newborn and histopathological examination of the placenta is essential.

Maternal Complications
- Vaginal bleeding is a common obstetric complication in the first trimester, estimated to occur in 15–25% of all pregnancies and representing an increased risk of pregnancy loss.
- Complicates prenatal screening.
- Psychological impact on mother.
- Increased risk of pulmonary embolism in mother, the aetiology is thought to be placental transfer of emboli or thromboplastic material through vascular shunts.
- No difference is found for the increased risk of pre-eclampsia, placenta praevia and placental abruption.
- Risk of postpartum haemorrhage.
- Sepsis/infection resulting from the retention of the dead fetus has also been documented in the obstetric literature.
- It is a rare cause for retained placenta and obstructed labour.

Fetal Complications
- The occurrence of a fetus Papyraceous is often associated with significant morbidity in the co-twin, namely ante partum stillbirth and intrauterine growth retardation.
• **Placental embolic syndrome**: DIC in surviving twin occurs rarely. The aetiology is thought to be placental transfer of emboli or thromboplastic material through vascular shunts. Thromboplastic material precipitates disseminated intravascular coagulation in the fetus, with a resultant hypercoagulable state due to relative fetal antithrombin III deficiency. This is usually, seen in MCDA twin pregnancy. Cases of renal cortical necrosis, CNS defects, hemi facial microstomia, intestinal atresia and aplasia cutis (skin defects) in second twin have been reported as part of placental embolic syndrome.

• **Risk of preterm labour**
  - <28 weeks (7 %)
  - < 35wks (23%)

• **Risk for small of gestation age / IUGR in surviving twin vs. singleton control**
  - proportion of low birth weight (< 2500 g) was 33.3 versus 11.7%
  - very low birth weight (< 1500 g) 3.5 versus 0.6%

• No significant difference has been found in the incidence of congenital malformations.

• In some cases of late fetal death, the dead fetus may induce intravascular thrombosis in many organs of the surviving co-twin, so that the living infant may develop cerebral palsy later after birth.

**Antenatal management**

*(If a patient is diagnosed with Papyraceous fetus on scan in pregnancy)*

• Refer her to ANC
• Consultant care
• Downs screening
  - Although based on a limited number of cases, women who are diagnosed with a vanished twin at early ultrasound in weeks 8–9, can have first trimester combined screening for Down’s syndrome performed using the same risk calculation algorithm as in singleton ART pregnancies.
  - In cases where the vanished twin is first diagnosed later in pregnancy, i.e. at the time of the NT scan, it is doubtful whether the serum risk assessment is as precise as it is in singleton ART pregnancies. For these later diagnoses, it more appropriate to base the risk assessment on ultrasonographic markers solely, which are unaffected by the number of embryos.

• Detailed anomalies scan of surviving twin at 20 wks.
• Steroids at 26wks.
• No benefit of giving prophylactic antibiotics.
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- Serial 4 weekly growth scans from 28wks. If 2 scans are showing normal growth, then monitor it by measuring symphysis fundal height.
- Prophylactic Anti-D 1500u at 30weeks or additional 500u in event of PV bleeding.

Intrapartum management

- Aim NVD.
- No routine induction of labour or LSCS, unless indicated for other obstetric reasons.
- IV access in labour.
- FBC, clotting, group and save, cross match only if needed.
- Active management of third stage is essential.
- After third stage it is important to ascertain that the Papyraceous fetus is delivered along with the placenta. If Papyraceous fetus is not delivered or if you are unsure, inform registrar on-call for review.
- EUA is needed, if Papyraceous fetus not delivered or if you are unsure, to avoid primary or secondary PPH.

Postpartum management

- Histopathological examination of the placenta is essential. Therefore send it to path lab.
- Detailed check-up of the newborn.
- As the baby is at risk for congenital malformations due to placental emboli phenomenon, must be thoroughly evaluated by paediatricians.
- Likewise, children born with disruptive congenital defects should have their placentas evaluated for a fetus Papyraceous.

References


