

CASE REPORT

Management of a shunt malfunction during pregnancy

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In some cases of shunt malfunction in pregnant women the symptoms can be so severe and occur so early that not only the mother but also the baby is threatened. In such a situation the close co-operation of a neurosurgeon and a gynaecologist is mandatory. Both conservative and surgical treatment have to be applied to overcome the time until the delivery carries an acceptable risk for the child. In such a case a pre-term delivery by Cesarean section should be recommended. (Fig. 1, Ref. 2.)

Key words: management, shunt malfunction, pregnancy.

Shunt dependency alone is not a contraindication for pregnancy, since most of the pregnancies are asymptomatic and vaginal delivery is possible (Liakos et al, 2000). Shunt malfunction occurs in almost 50 % (symptoms from increased ICP, seizures, abdominal pain) with a need of some surgical intervention in 10 %. The reason for shunt malfunction is increased intraabdominal pressure. It carries also a risk for the child (pre-mature deliveries, therapeutic abortions) (Maheut-Lourmiere et Chu Tan, 2000).

Case report

A 27 year-old pregnant woman in 27th gestation week with a programmable shunt implanted 3 years ago with the history of 3 surgical revisions was admitted with headache, double vision and severe Parinaud's syndrome. Reprogramming of the valve so as the surgical revision had failed to improve the patient's condition. Pre-term delivery was not felt optimal due to the immature lungs of the baby. Intracranial hypertension was treated conservatively for 4 weeks after which the shunt was externalized from the abdominal cavity due to the further neurological worsening. Diprophos was administered to the mother to improve the baby's lung maturation. A healthy child was delivered by Cesarean section in 34th gestation week. The shunt was implanted back to the peritoneal cavity 3 weeks after the delivery. The patient's symptoms had resolved and the CT scan was improved (Fig. 1).

Discussion

With the increasing successes in treatment of hydrocephalus by the means of shunt systems there is an increasing number of surviving into reproductive age. We have encountered several

cases of hydrocephalic pregnant women with troubles regarding shunt malfunction during their pregnancy. In most of these cases, the problems arise only in the last trimester and they can be handled conservatively. This presented case was exceptional because the symptoms occurred already in the 27th gestation week and from the beginning they were so severe that required admission to the hospital and a very active treatment approach. The immature organs, particularly lungs, of the baby prevented us to perform the Cesarean section. The co-operation with the gynaecologist was necessary. An important question seems to be the timing of the shunt replacement back to the peritoneal cavity. We think that it should not be sooner than 2–3 weeks after the delivery until the uterus is decreased in size and also the healing after the Cesarean section is finished.

In some cases of shunt malfunction in pregnant women the symptoms can be so severe and occur so early that not only the mother but also the baby is threatened. In such a situation the close co-operation of a neurosurgeon and a gynaecologist is mandatory. Both conservative and surgical treatment have to be applied to overcome the time until the delivery carries an acceptable risk for the child. In such a case a pre-term delivery by Cesarean section should be recommended.

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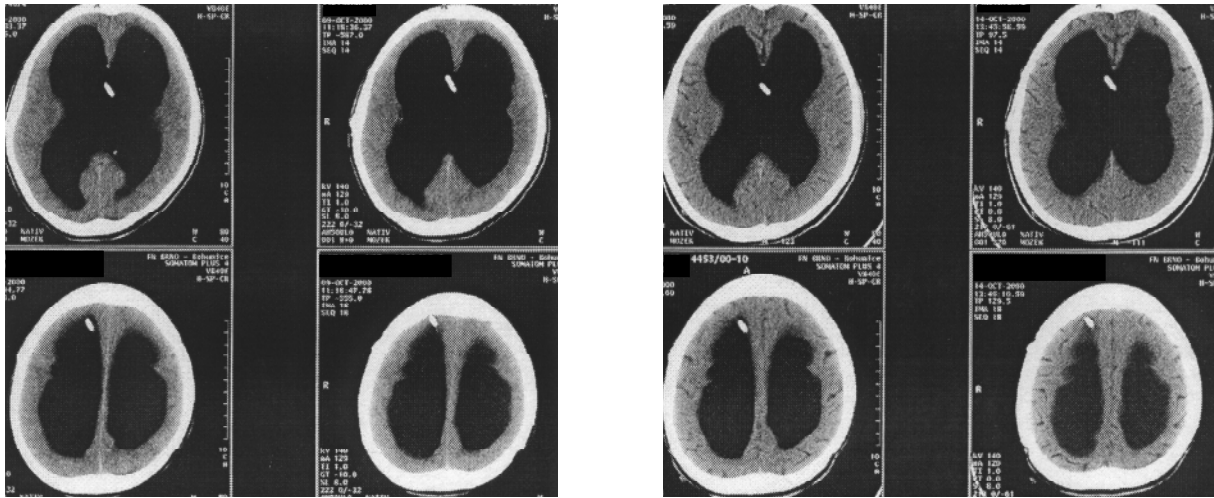


Fig. 1. Decompensated hydrocephalus in admission (left), improvement of the CT finding before discharge with apparent gyration (right).

References

Liakos AM, Bradley NK, Magram G, Muszynski C: Hydrocephalus and the reproductive health of women: the medical implication of maternal shunt dependency in 70 women and 138 pregnancies. *Neurol Res* 2000; 22 (1): 69—88.

Maheut-Lourmiere J, Chu Tan Si: Hydrocephalus during pregnancy with or without neurosurgical history in childhood. Practical advice for management. *Neurochirurgie* 2000; 46 (2): 117—121.

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