

Poster Number: **EP 088** Name: **Dr. Roshni A R**
Title: **Pregnancy in a patient with congenital hydrocephalus**



Introduction

Congenital hydrocephalus is characterized by extensive accumulation of cerebrospinal fluid within the ventricles of the brain due to an imbalance between synthesis and absorption of cerebrospinal fluid. The estimated prevalence is 0.9-1.2/1000.

Objective

To understand how congenital hydrocephalus affects pregnancy through a case history and discussion of important maternal and fetal side effects.

Case operation

A 24-year old primigravida came to our department for ANC checkup following 2 months of amenorrhea.

Past history:

- Diagnosed with congenital hydrocephalus and underwent VP shunt insertion at 5 months of age, following evaluation for delayed milestones and macrocephaly

- Perforated appendicitis at 9 years complicated by peritonitis and shunt infection, managed conservatively.

Antenatal history

1st trimester was uneventful. Underwent McDonald's cervical cerclage for short cervix (at 14 weeks GA) detected in NT scan (cervical stitches removed at 39+2 weeks GA). She was routinely monitored for potential shunt complications like raised ICP throughout pregnancy.

Procedure

At 39 weeks GA, she presented with frontal headache and intermittent lower abdominal pain. MRI brain was done suspecting shunt obstruction, however reported no features of shunt collapse of raised ICPL. She was induced for labour at 39+3 weeks GA (prolonged latent phase), however underwent emergency LSCS (Ind: 2nd stage arrest of descent). Delivered a healthy baby boy weighing 3.06 kg. Postnatal period was uneventful.

Antepartum complications	Median age	Median shunting duration	Shunting indication				Delivery type				Postpartum complication, yes
			Congenital	Tumours	Infection	Other	Spontaneous vaginal	Assisted vaginal	Induced vaginal	Cesarean section	
No symptoms (n=19)	21 (21-29)	19 (6-25)	11 (57.9%)	2 (10.5%)	1 (5.3%)	5 (26.3%)	8 (42.1%)	4 (21.1%)	---	7 (36.8%)	3 (15.8%)
Raised ICP symptoms (n=14)	26.5 (21-31.25)	15 (2-21)	10 (71.4%)	1 (7.1%)	---	3 (21.4%)	5 (35.7%)	---	1 (7.1%)	8 (57.1%)	2 (14.3%)
Headache (n=2)	29.5 (NA)	2 (NA)	---	1 (50%)	1 (50%)	---	1 (50%)	1 (50%)	---	---	0 (0%)
Other (n=3)	22 (NA)	4 (NA)	3 (100%)	---	---	---	2 (66.7%)	---	1 (33.3%)	---	0 (0%)

Safety of pregnancy in VP shunt dependent women; Source:(Reference No.2)

Discussion

Shunt malfunction although low rate, presents unique challenges due to the physiological changes of pregnancy, like increasing intra-abdominal pressure from the gravid uterus. Management strategies include CSF aspiration, shunt flushing, surgical options like shunt removal and ETV (endoscopic third ventriculostomy), and new approaches like VA (ventriculoatrial) shunt replacement, anti-siphon devices.

Conclusions

- Maintaining the delicate balance of pressure gradients to ensure proper shunt function
- Multidisciplinary approach
- VP shunts are not contraindicated in pregnancy
- Vaginal delivery preferred
- Surgical prophylaxis of antibiotics

References

1. Greenberg M Handbook of Neurosurgery. 20168th Thieme:288-91
2. Al-Saadi et al., Safety of Pregnancy in Ventriculoperitoneal Shunt Dependent Women: Meta-analysis and Systematic Review of the Literature. Neurology India 68(3):p 548-554, May-Jun 2020. DOI: 10.4103/0028-3886.288995
3. Sasawaga Yet al, Ventriculoperitoneal shunt malfunction due to pregnancy No Shinkei Geka. 2006;34:181-7