Questions
Session 3: Etiology, epidemiology, pathophysiology, classification of SBoD, & neurosurgical management

Responses by
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How often are dura mater plastics used in neurorachitis and why?

- Duroplasty with plastic material is usually used to reduce the risk of adhesive scar, and then clinical retethering syndrome.
- In prenatal surgery often used between placode and dural closure.
- In postnatal used usually for reoperation.

Do they practice simultaneous surgery for Spina bifida and hydrocephalus, if such combinations occur?

- Both surgery are rarely done at the same time because of increasing shunt infection risk.
- Basically, closure is done at first and then Shunting in case of necessity in the next weeks or months.
- Shunting first can be decided in severe cases with already antenatal hydrocephalus and large skin defect.
Do primary and secondary (after closure of spina bifida) tethering syndrome are operated on; is intraoperative neuroelectromonitoring used during this and, in general, how often is this method of navigation used?

- Tethered cord syndrome is the clinical presentation of the mechanical suffering of a spinal cord. It can be operated of course in the case of spinal dysraphism. The question of a re-surgery for recurrence or worsening of symptoms can appear.

- In both cases neuromonitoring is a help for mapping the malformative situation and detection of electrophysiologic modification that can lead to new neurologic impairment.

- This method is more and more often used, but depending on the center experience, complexity of the case and the clinical situation its utility is various.

- In Bambino Gesu, the IONM is essential for any spinal dysraphism. We rarely applied it even in myelomeningoceles (postnatal treatment).
If shunting, which systems are preferred and why, compared to others?

- Choice of shunting is the same in case of spina bifida or other etiologies.
- The goals are: effective drainage, slit ventricle prevention, long term functioning.
- In Bambino Gesu, we use adjustable valves, but in rare cases, we have used flow-regulating valves.

Do you think there are new health benefits from the fetal surgery of myelomeningocele from a urological viewpoint?

- There is no direct effective effect on the malformative conus itself to avoid urological symptoms in myelomeningocele.
- Reducing the shunt necessity can reduce the potential complication of urological surgery such as enterocystoplasty, improving the autonomy of the patient can improve the management of symptoms.
- Indeed, we don’t present the prenatal closure as a procedure to improve the urological point of view.
From the technical view of the repair of myelo, are there different outcomes depending on the surgical technique?

- Compared to open surgery fetoscopy present a long learning curve to achieve the same quality of multilayer closure.
- For myeloschisis the closure can be more difficult with fetoscopy, compared to myelomeningocele.
- The outcome depend mainly on the watertight closure, the non adhesive closure, the dermoid inclusion closure and of course prematurity as a major risk of prenatal surgery and major outcome factor.

Why has fetal surgery not changed the urological prognosis in myelo fetal surgery?

- Probably because of terminal spina cord dysplasia that explain mainly the urological prognosis.
- We don’t know yet the long-term prognosis at older adult age.