SACROCOCCYGEAL TERATOMA – from prenatal risk factors to functional outcome, quality of life and genetic deviations

Mette Hambraeus

PhD half time seminar
Time: 14.00-16.00, 26th of September 2017
Place: BMC, room I 1341

Supervisor: Lars Hagander
Co-supervisors: Einar Arnbjörnsson, Anna Börjesson, Pernilla Stenström, Kjell Salvesen

Background
During the past decade the birth prevalence of sacrococcygeal teratoma (SCT) has been relatively high in Southern Sweden. The peak in incidence has raised several questions regarding mortality, morbidity and pathological background.

Aim
The overall aim of the thesis was to evaluate:
- risk factors of poor neonatal outcome
- prevalence of urinary tract and bowel dysfunction compared to healthy children
- risk factors of poor functional outcome
- prevalence of problems concerning scar
- quality of life at long term follow-up
- genetic deviations and their contribution to the phenotypical diversity

Methods
The first study was a retrospective cohort study of all newborns with SCT during 2000-2013. Data regarding prenatal growth, prenatal morbidity, tumor characteristics at birth and neonatal course were retrieved. Predictors of adverse neonatal outcome were analysed. The second study was a cross-sectional follow-up study of the cohort. Urinary tract and bowel function was measured through interviews, and data was compared to healthy children. Predictors of poor function was analysed.

Results
The overall birth prevalence of SCT was approximately 1:14.000 during the study period, and the mortality rate was 11%. Fetuses with rapidly growing tumors, large tumor diameter early in pregnancy, polyhydramnios and solid morphology were more likely to develop a complicated neonatal and perioperative course. At long term follow-up (median 7.3 years) 29% had urinary tract dysfunction, 47% had constipation and 29% problems with soiling. Voluntary bowel movements were reported by 88% of the cohort. Compared to healthy controls, children with SCT more commonly had uncontrolled voiding, bladder emptying
difficulty, pyelonephritis and constipation. The overall Bowel Function Score (BFS) was equal in the two groups. Children with large tumors and immature histology were more likely to develop urinary tract and bowel dysfunction.

**Conclusion**
Intrauterine growth pattern, tumor size and immature histology seem to be important risk factors for both short and long term morbidity. The most rapidly growing tumors encompass a high prevalence of polyhydramnios and premature birth, which increases the risk of an adverse neonatal outcome. In the long perspective, urinary tract and bowel dysfunction are found in approximately one third of the patients.

---

**Papers**
