

IV. PEDIATRIC SURGERY

OUR EXPERIENCE IN SACROCOCCYGEAL TERATOMAS

ES Boia¹, C Popoiu¹, RE Iacob¹, Ioana Lazar¹, Marioara Boia², Julieta Puiu³

¹Pediatric Surgery and Orthopedics Clinic Timisoara;

²Neonatology and Health Care Clinic Timisoara

³Department of Genetics, Timisoara University of Medicine- Romania

Abstract

The sacrococcygeal teratomas are tumors with relatively low incidence, but with a high risk of malign transformation with age.

We have included in our retrospective study a number of 39 cases of sacrococcygeal teratomas hospitalized in Pediatric Surgery Department from Timisoara in the last twenty five years. The necessary data were obtained by using retrospective statistical methods.

We analyzed in the study the frequency of sacrococcygeal teratomas in the period 1979 – 2004, the distribution of cases with regard to gender (F/M ratio) and the affected group. Using the histopatological results we were able to establish the benign/malign rate at newborn. Also we diagnosed the percentage of malign transformation in cases of sacrococcygeal teratomas ad addressed after the age of 2 months.

Results: the female patients were more affected than males. Benign forms of the disease were prevalent in the neonatal period. Patients diagnosed after 2 months of age had a high frequency of malign sacrococcygeal teratomas.

Surgical treatment before the age of 2 months leads to a decrease of malign transformation and relapse.

Key words: sacrococcygeal teratomas, benign, malign, neonatal period.

Introduction:

Sacrococcygeal teratomas are tumors which contain elements derived from all the three embryonic layers: ectoderm, mesoderm and endoderm. The common components of teratomas are skin, teeth, central nervous system tissue, respiratory and alimentary mucosae, cartilage and bone. At the newborns teratomas are generally localized at the sacrococcygeal level.

From the clinical point of view they are a tumoral mass in the sacrococcygeal region. Sometimes the localization can be in the presacral space or in the retroperitoneal space.

The diagnosis is sustained by the localization and the clinical aspect of the tumor, the abdominal extension being evident after the rectal examination. The confirmation of the diagnosis is obtained trough histopatological exam.

At birth the benign/malign rapport is 9/1. After the age of 2 months the rapport inclines towards malignity. Taking into account this aspect the surgical intervention, consisting in removing the tumor, is imposed as an emergency therapeutic measure.

Material and method:

It is presented a clinical and statistical analysis of the cases of sacrococcygeal teratomas operated in Pediatric Surgery and Orthopedics Clinic Timisoara, in the period 1.01.1979 – 1.02.2004, the data used being extracted of the surgical protocols and histopatological exams.

Objectives:

The study presents:

1. the variation of the incidence of sacrococcygeal teratomas in children in the last 25 years,
2. the sex ratio,
3. the repartition of cases based on age groups,
4. the incidence of the malignancy at the moment of diagnosis at newborn,
5. the variation of the rapport benign/malign according to age.

Results and discussions:

In the last 25 years 46 surgical interventions have been effectuated in our clinic for the treatment of sacrococcygeal teratomas, 7 being reinterventions occurring to relapses (Fig. 1).

	39 surgical interventions
Total number of cases 46	
	7 reinterventions

Fig. 1. Surgical treatment of the sacrococcygeal teratomas

Of the 39 cases 3 didn't have histopatological confirmation, the next results being obtained through the study of a lot of 36 cases. Comparing the number of

cases/year in the period 1979-2004, we've obtained a maximum incidence of these in the interval 1990-1994 (Fig. 2.).

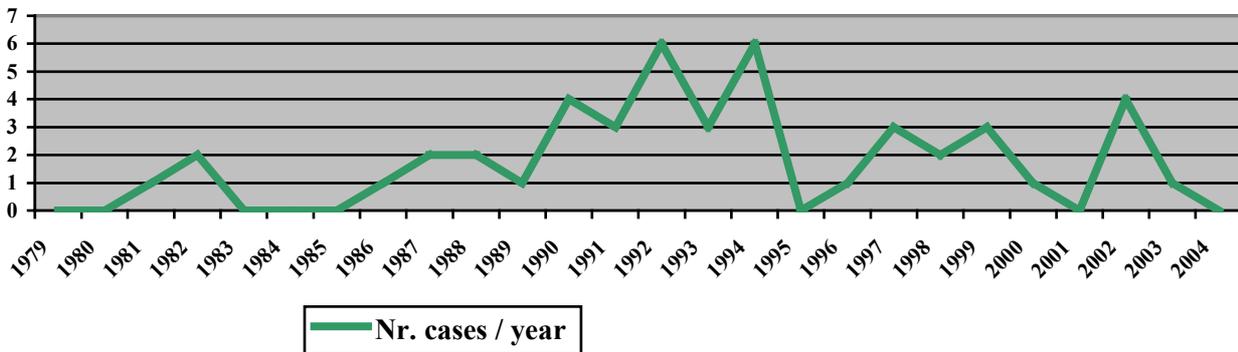


Fig. 2. The variation of incidence of the sacrococcygeal teratomas in children in the last 25 years.

The next table presents the distribution of cases according to age groups.

Age (months)	0 - 1	1 - 2	2 - 3	3 - 4	4 - 5	5 - 6	6 - 7	7 - 8	8 - 9	9 - 10	10 - 11	11 - 12	> 12
Nr. Of cases	18	4	1	0	0	0	3	0	1	0	1	1	8

It can be observed that the biggest number of cases/age groups is that in the neonatal period (18 cases of 39), (Fig. 3.).

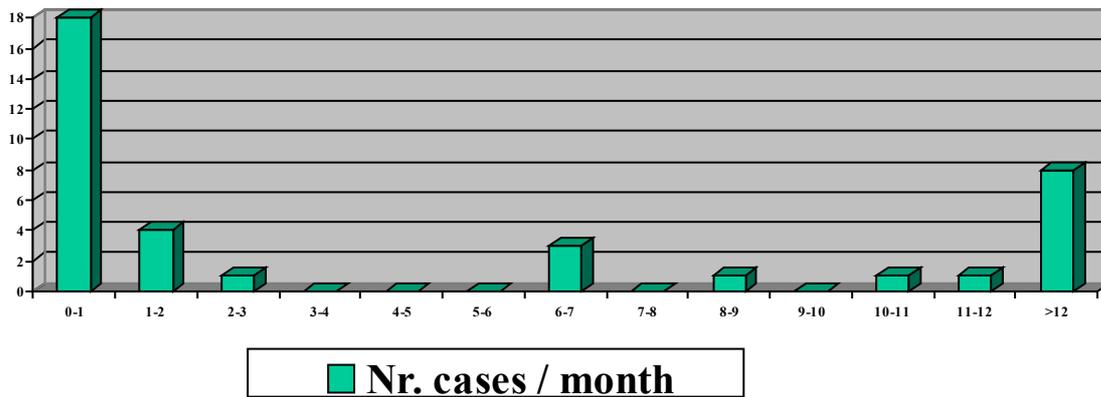


Fig. 3. Distribution of cases according to the age groups.

The repartition of cases according to the sex shows a high frequency of the disease at the female. Out of 36 cases,

25 were of female and 11 male, the final rapport F/M = 2,27/1 (Fig. 4.).

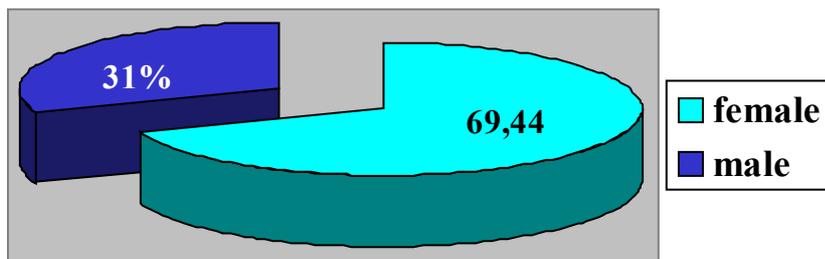


Fig. 4. Sex ratio.

In the decision of the malignity characteristics the histopatological exam was decisive. Of the 36 cases 8 were lost from our evidence, the next results referring to a

number of 28 cases. We've analyzed the benign/malign rapport by dividing the cases in 2 groups, having as a reference point the age of 2 months (Fig. 5).

	Diagnosed and operated cases Age 0 – 2 months	Diagnosed and operated cases Age 2 – 12 months
Number of cases	16	12
Benign tumors	14	4
Malign tumors	2	8

- benign/malign rapport at age 0-2 months = 7/1
- benign/malign rapport at age 2-12 months = 1/2

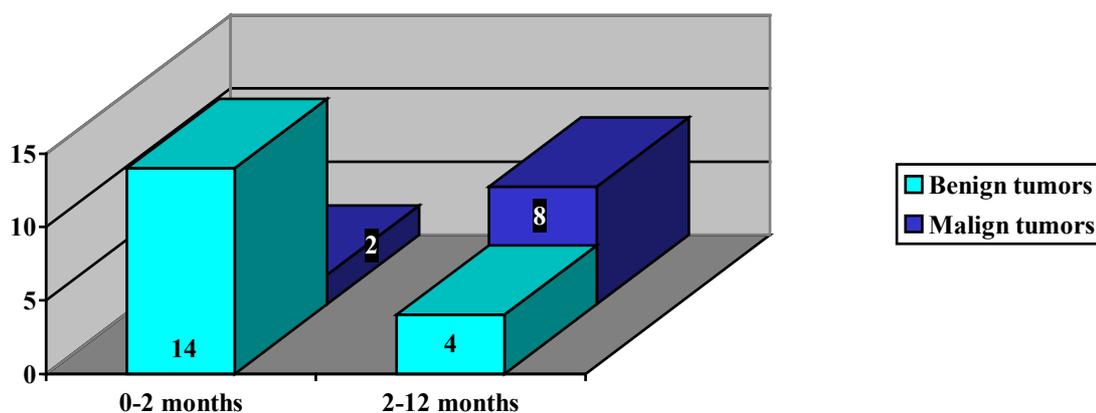


Fig. 5. Benign/malign rapport.

Conclusions:

- the maximum of incidence of the sacrococcygeal teratomas in the period of the 25 studied years is between 1990-1994;
- the disease is more frequent at female;
- the most affected age group is the neonatal period;

- the benign character prevails in the first 2 months of life and the malign transformation grows with age;
- after the radical surgical treatment the cases are usually cured, only a small number of cases having relapses.

References:

1. Ashcraft K, Thomas M. – *Pediatric Surgery*, W. B. Sonnders Co,1993;
2. Boia E., Boia Marioara – *Urgențe Chirurgicale Neonatale*, 1996;
3. Fufezan V, Țepeneu P. – *Chirurgie Pediatrică*, Ed. Amarard, Timișoara, 1996;
4. Lange - *Clinical Manual: Neonatology*, 4th edition, Appleton & Lange, Stamford, Connecticut, 1999;

5. Swenson O, Raffnsperger JG. - *Pediatric Surgery*, 1990;
6. Varna A. – *Chirurgie și Ortopedie Pediatrică*, Ed. Didactică și Pedagogică, București, 1989;
7. Zamfir T. și colab. – *Chirurgie Viscerală, Urologie și Ortopedie Pediatrică*, Ed. Didactică și Pedagogică, București, 1989.