Sacrococcygeal Malignant Germ Cell Tumour [SC-MGCT] with Intraspinal Extension

R. Garg,
S. Agarwala, S. Bakshi, M. Srinivas,
M. Bajpai, V. Bhatnagar, DK Gupta

Department of Pediatric Surgery and Medical Oncology
All India Institute of Medical Sciences
New Delhi

Aim

- **To evaluate patients of sacrococcygeal malignant germ cell tumour having intraspinal extension for:**
  - **Incidence**
  - **Presentation**
  - **Management**
  - **Outcome**

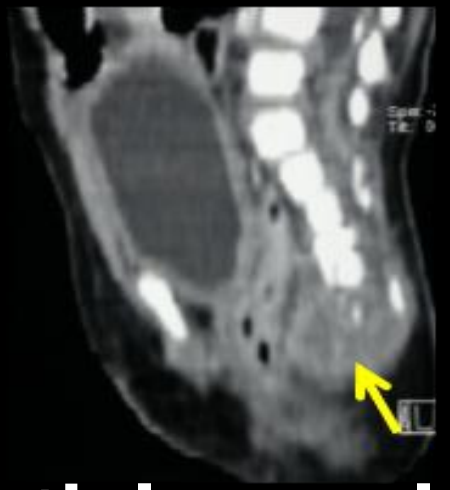
Materials and Methods

- **Retrospective Study:**
  June 2001-Dec 2008
  - **Tertiary care Pediatric Surgery Oncology Department**
  - **All MGCT's diagnosed and treated (<12yrs age)**

SC-MGCT/AIIMS/2009

Materials and Methods

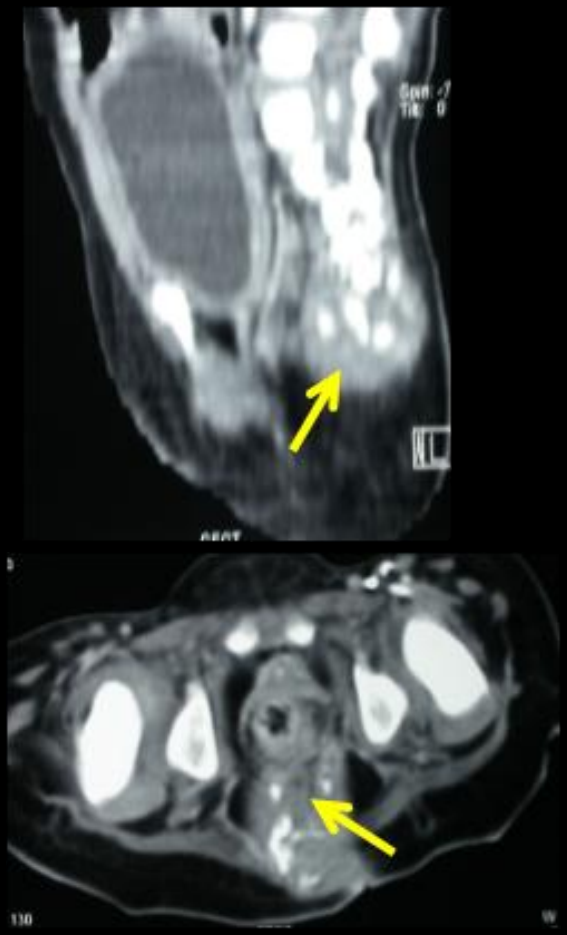
- **Intraspinal extension:** CECT / MRI scan
- **Treatment:**
  - Chemotherapy: 4 courses of PEB both pre and post-operatively
  - Surgical resection with/without partial sacral excision



SC-MGCT/AIIMS/2009

Results: Presentation

- **31 cases of SC-MGCT**
  - **5 (16%): intraspinal extension**
  - **Age 12 – 84 months (median- 24 m)**
- **Altman:**
  - **Altman 4: 4**
  - **Altman 3: 1**
- **POG stage:**
  - **Stage 4: 4 (80%)**
  - **Stage 3: 1 (20%)**



SC–MGCT/AIIMS/2009

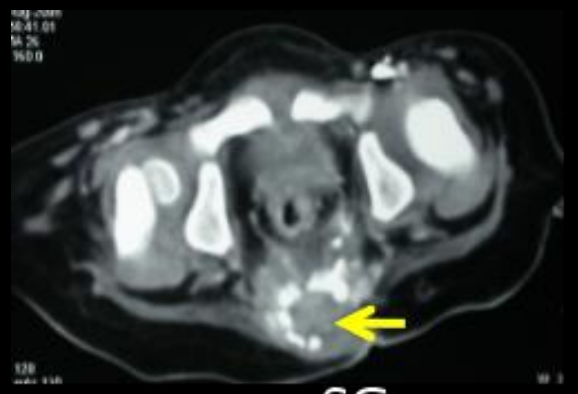
Results: Presentation

- **Neurological presentation:**
  - Paraparesis: 3
  - Paraplegia: 1
  - Urinary incontinence: 1
  - Fecal incontinence: 1
  - No neurological symptoms: 1

- **Duration of Neurological symptoms**
  - 15-70 days

Results: Outcome

- **Surgical resection:**
  - **Complete: 4**
    - **Complete Resolution Pre-operatively: 3**
    - **Partial Sacral Excision: 1**
  - **Gross Intraspinal Residue: 1**
    - **Post-op Chemotherapy**



SC-MGCT/AIIMS/2009

Results: Outcome

- **Histology**

  Endodermal Sinus Tumor

- **Follow up**

  3-32 months (median 21months)

Results: Outcome

- **Neurological recovery**

  -Lower limb weakness:

  Improved completely in all

  -Bowel and bladder incontinence:

  Bowel incontinence improved

  Persistent Bladder Incontinence

Conclusions

- **SC-MGCT with Intraspinal Extension present:**
  - **Altman 3 or 4 disease**
  - **Neurological involvement- lower limbs/ bladder/ bowel**
  - **Advanced stage- metastasis**

Conclusions

- Respond well to Chemotherapy
- Complete Surgical Resection
- Complete Neurological Improvement

Discussion

- Late Presentation
- Feasibility of resection
- Effect of chemotherapy on Surgical outcome
- Hydro-Ureteronephrosis
  - Use of Cisplatin

Literature Review

- *Lahdenne P, Heikinheimo M, Nikkanen V, Klemi P, Siimes MA, Rapola J: Neonatal benign sacrococcygeal teratoma may recur in adulthood and give rise to malignancy. Cancer 72:3727-3730,1993.*

- *Powell RW, Weber ED, Manci EA. Intradural extension of a sacrococcygeal teratoma.J Pediatr Surg. 1993 Jun;28(6):770-2.*

- *Ribeiro PR, Guys JM, Lena G. Sacrococcygealteratoma with an intradural and extramedullary extension in a neonate: case report.Neurosurgery. 1999 Feb;44(2):398400.*

- *Teal LN, Angtuaco TL, Jimenez JF, Quirk JG Jr. Fetal teratomas: antenatal diagnosis and clinical management.J Clin Ultrasound. 1988 Jun;16(5):329-36.*

Thank You