



## Case Report

### AMBIGUOUS GENITALIA WITH PERINEAL RHABDOMYOSARCOMA : A CASE REPORT

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#### Abstract :

Individuals having ambiguous genitalia have been described since antiquity. But their association with the occurrence of any cancer is not well established. Here we report a case of perineal rhabdomyosarcoma associated with ambiguous genitalia.

Rhabdomyosarcoma is a childhood malignant soft tissue tumor. Most cases of rhabdomyosarcoma occur sporadically with no recognized predisposing factor<sup>1</sup> though a small proportion are associated with genetic conditions. Some children with certain birth defects are at increased risk, and some families have a gene mutation that elevates risk.. However, the vast majority of children with rhabdomyosarcoma do not have any known risk factors<sup>2,3,4,5,6,7,8</sup>. Here we report a case of ambiguous genitalia with perineal rhabdomyosarcoma.

#### Case Report:

A 4 month baby of indeterminant sex presented with an enlarged phallus and three openings in the perineum. Clinical examination revealed an enlarged phallus which was pedunculated with a coliform tip; urethral and vaginal orifices were identified in the pudendal cleft and anus was in normal position ( Fig.-1).

Because of the ambiguous morphologic features of the genitalia, the baby underwent urologic and endocrinologic workup. Her karyotype was 46xx and serum testosterone was normal for female. Ultrasonogram revealed presence of uterus which was

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**Fig- 1 :** Clitoromegaly with normal urethra and vagina

normal in size and position. Vagina also was present with hypertrophied clitoris. Both adnexa appeared normal. Cystoscopic examination revealed urethra, vagina and uterus in normal position. Clitoroplasty was then planned but the patient had to leave the hospital due to familial affairs.

The patient developed a swelling in the buttock at eight months of age which was excised in another centre but the histopathology report was not available. The wound didn't heal properly and the patient was again brought to us at one year of age with a big swelling protruding from the perineal region and buttock pushing the vagina anteriorly with wound infection and excoriation of the skin over the buttock. (Fig.-2)

Ultrasonogram of perineal region showed a big complex mass at both gluteal region and perineum with heterogenous echotexture of solid and cystic components. Exploration under general anaesthesia showed a big, soft, friable mass protruding through the left side of the introitus between the vagina and the rectum. The mass was excised through perineal



**Fig- 2 :** A big mass protruding through the perineum.

route . Laparotomy through infraumbilical transverse incision showed healthy uterus, ovary and bladder and regional lymph nodes were not enlarged. Histopathology of the mass revealed Embryonal Rhabdomyosarcoma. It was a stage III tumor on TNM classification. The patient was then treated with chemotherapy. Total 5 cycles of chemotherapy was given with Haloxen, Vincristine and Actinomycin. After 7 months the patient again developed a swelling in the perineum at the same site which was pedunculated. The mass was excised again but complete excision was not possible. Histopathology again revealed Embryonal Rhabdomyosarcoma. Radiotherapy was then started but the patient again developed a swelling arising from the same site within a month which was similar to the previous growth but more rapidly growing .Debulking of the fragile tumor with sigmoid end colostomy was done as the tumor extended to the rectum and pelvis and found to be stage IV on TNM classification. Histopathology again revealed Embryonal Rhabdo+myosarcoma Second course chemotherapy is now planned for after healing of the wound.

#### **Discussion :**

Rhabdomyosarcomas of the perineal and perianal regions are not very common and make up only 2% of all rhabdomyosarcomas.<sup>9</sup> A number of genetic syndromes and hereditary susceptibility for rhabdomyosarcoma are seen in approximately 5% of patients. These include instances of the Beckwith-Wiedemann syndrome and the Li-Fraumeni syndrome, a familial clustering of a wide spectrum of cancers including carcinoma of the breast,

glioblastoma, nephroblastoma, leukemia, osteosarcoma, and rhabdomyosarcoma<sup>10</sup>. Other risk factors for the development of rhabdomyosarcoma include maternal use of marijuana and cocaine, exposure to radiation, and a maternal history of stillbirths. Rhabdomyosarcoma has also been seen in families with the basal cell nevus syndrome and the fetal alcohol syndrome<sup>11</sup>. The patient we have reported had no history or features suggestive of any association with any of the aforementioned diseases or syndromes. But the mother worked in a garment factory.

It is usually a curable disease in most children with localized disease who receive combined modality therapy, with more than 70% surviving 5 years after diagnosis<sup>12,13,14</sup>. Relapses are uncommon after 5 years of disease-free survival, with a 9% late-event rate at 10 years. Relapses, however, are more common for patients who originally had stage III or stage IV disease and large tumors<sup>15</sup>.

We could not find any literature of Rhabdomyosarcoma occurring in an individual having ambiguous genitalia. Ambiguous genitalia is a birth defect of the sex organs that makes it unclear whether an affected newborn is a girl or boy. The causes of ambiguous genitalia include genetic variations, hormonal imbalances and malformations of the foetal tissues that are supposed to evolve into genitals. Very few infants with ambiguous genitalia have genitals that are so ambiguous that a gender determination is not made at birth. Far more common are the following observations at birth: a female with severe virilizing (overproduction of male hormones) who appears to have a small penis and a male with an abnormally small penis that resembles a female clitoris<sup>16</sup>. Hypertrophy of the clitoris is observed in cases of fetal exposure to androgens. The disorder usually is the result of congenital deficiencies of the adrenal enzymes of cortisol synthesis; more rarely, it is caused by idiopathic virilization or exposure to progestational agents in utero. Although rare, clitoral hypertrophy caused by neurofibromas of the clitoral corpora has been described, including a case of localized neurofibromatous infiltration of the prepuce only<sup>17,18</sup>.

#### **Conclusion:**

Clitoral enlargement is a symptom that deserves full attention and thorough evaluation. It may be the first indication of an endocrine or intersex disorder, but more importantly, it may indicate an underlying neoplastic process as well. The patient we have reported also supports this.

**References:**

1. Gurney JG, Young JL Jr, Roffers SD, et al.: Soft tissue sarcomas. In: Ries LA, Smith MA, Gurney JG, et al., eds.: Cancer incidence and survival among children and adolescents: United States SEER Program 1975-1995. Bethesda, Md: National Cancer Institute, SEER Program, NIH Pub. 1999; 99-4649., pp 111-123.
2. Li FP, Fraumeni JF Jr: Rhabdomyosarcoma in children: epidemiologic study and identification of a familial cancer syndrome. *J Natl Cancer Inst* 1969; 43 (6): 1365-73.
3. Diller L, Sexsmith E, Gottlieb A, et al.: Germline p53 mutations are frequently detected in young children with rhabdomyosarcoma. *J Clin Invest* 1995; 95 (4): 1606-11.
4. Matsui I, Tanimura M, Kobayashi N, et al.: Neurofibromatosis type 1 and childhood cancer. *Cancer* 1993; 72 (9): 2746-54.
5. Hartley AL, Birch JM, Marsden HB, et al.: Neurofibromatosis in children with soft tissue sarcoma. *Pediatr Hematol Oncol* 1988; 5 (1): 7-16.
6. Gripp KW, Scott CI Jr, Nicholson L, et al.: Five additional Costello syndrome patients with rhabdomyosarcoma: proposal for a tumor screening protocol. *Am J Med Genet* 2002; 108 (1): 80-7.
7. Samuel DP, Tsokos M, DeBaun MR: Hemihypertrophy and a poorly differentiated embryonal rhabdomyosarcoma of the pelvis. *Med Pediatr Oncol* 1999; 32 (1): 38-43.
8. DeBaun MR, Tucker MA: Risk of cancer during the first four years of life in children from The Beckwith-Wiedemann Syndrome Registry. *J Pediatr* 1998; 132 (3 Pt 1): 398-400.
9. Raney RB Jr, Crist W, Hays D et al. Soft tissue sarcoma of the perineal region in childhood. *Cancer* 1990; 65:2787-2792.
10. Li FP, Fraumeni JR, Mulvihill JJ, et al. A cancer family syndrome in 24 kindreds. *Cancer Res* 1992; 54: 2247.
11. Rubnitz JE, Crist WM. Molecular genetics of childhood cancer: implications for pathogenesis, diagnosis, and treatment. *Pediatrics* 1997; 100: 101-108.
12. Crist W, Gehan EA, Ragab AH, et al.: The Third Intergroup Rhabdomyosarcoma Study. *J Clin Oncol* 1995; 13 (3): 610-30.
13. Maurer HM, Gehan EA, Beltangady M, et al.: The Intergroup Rhabdomyosarcoma Study-II. *Cancer* 1993; 71 (5): 1904-22.
14. Crist WM, Anderson JR, Meza JL, et al.: Intergroup rhabdomyosarcoma study-IV: results for patients with nonmetastatic disease. *J Clin Oncol* 2001; 19 (12): 3091-102.
15. Sung L, Anderson JR, Donaldson SS, et al.: Late events occurring five years or more after successful therapy for childhood rhabdomyosarcoma: a report from the Soft Tissue Sarcoma Committee of the Children's Oncology Group. *Eur J Cancer* 2004; 40 (12): 1878-85.
16. Yun Gong, MD; Jerome Chao, MD; Bruce Bauer, MD; Xiaoping Sun, MD; Pauline, M. Chou, MD. Primary Cutaneous Alveolar Rhabdomyosarcoma of the Perineum *Archives of Pathology and Laboratory Medicine*: 1990; 126, 8: 982-984:
17. Griebel ML, Redman JF, Kemp SF, Elders MJ : Hypertrophy of Clitoral hood : presenting sign of neurofibromatosis in female child. *Urology*. 1991; 37(4) : 337-9.
18. Nishimura K, Sugao H, Sato K : Neurofibroma of the clitoris. A case report. *Urol Int* ; 1991; 46(1): 109-11.