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Extragonadal Teratoma with Meningomyelocele Presenting as Mature Foot Formation on Back – Rare Case Report

Medical Science

KEYWORDS : Teratomas, totipotential cells, Gonadal and Extragonadal teraoma, mature foot, Spinal teratoma.

Dr Rajharsh D. Hanmante	Assistant Professor, Dept. of Pathology, Dr SCGMC Nanded.
Dr Uddhav W. Mane	Assistant Professor, Dept. of Anatomy, Dr SCGMC Nanded.
Dr Shreeram W. Chopade	Assistant Professor, Dept. of Pathology, GMC Akola.

ABSTRACT

Teratomas are germ cell tumors commonly composed of multiple cell types derived from one or more of the 3 germ layers. It arises from totipotential cells; these tumors typically are midline or paraxial. Teratomas are of Gonadal and Extragonadal types. We are presenting a rare case of extragonadal teratoma with meningomyelocele with mature foot formation on back.

A 6 months female child, brought by her parents with history of swelling on the back since birth, with mature foot formation. Case was further evaluated and swelling was excised. Histopathological examination of the swelling shows mature teratoma with meningomyelocele. Patient expired 24 hours after the surgery

Introduction:

Teratomas are germ cell tumors commonly composed of multiple cell types derived from one or more of the 3 germ layers. Teratoma were attributed to demons, abnormal fertilization.[1] They have multiple tissue types and can present in various sizes and shapes.[1, 2] Teratomas range from benign, well-differentiated (mature) cystic lesions to those that are solid and malignant (immature).[3] It arises from totipotential cells, these tumors typically are midline or paraxial. Teratomas are of Gonadal and Extragonadal types.

Gonadal teratomas derived from germ cells and they may or may not be congenital. Extragonadal teratomas derived from embryonal cells and they are congenital.

Origin of extragonadal teratoma is as follows. Primordial germ cells (yolk sac) – Embryo (hind gut) – some cells deviate from gonadal ridge and become dormant – extragonadal teratomas.[2] Gonadal teratoma located in testis and ovary. Extragonadal teratomas are located (in the decreasing order of frequency) in the Retreoperitoneal, Mediastinum, Sacrococcygeal region and Pineal gland region.[2] Teratoma of the spinal cord is very rare. Sbooff, Kernohan and MacCarty (1964) reported only two cases in 1,322 patients with primary tumours of the spinal.[3]

Extragonadal teratoma at spinal level with formation of mature foot is very rare.

Case: 6 months female child, brought by her parents with history of swelling on the back since birth, with mature foot formation

[Fig. 1. Clinical photograph of patient]. Case was evaluated clinically and radiologically. [Fig. 2. X ray picture of mass lesion]

Operative procedure was performed and the swelling was excised and sent to the pathology department for histopathological evaluation.

On Follow up study: Patient expired 24 hours after surgery.

After receiving the excised specimen for histopathological examination, the gross examination was done which showed the partly skin covered irregular tissue mass of size 18x8x6 cm. Upper portion of specimen was globular in shape and lower part showed mature foot with two digit. [Fig. 3].

On cut section, it showed the grayish white solid tissue mass with few cystic areas. The mass was soft, fleshy in appearance. [Fig. 4]

Haematoxyline and eosin stained multiple sections were studied. It showed mature teratoma along-with the presence of neural tissue (ganglionic tissue), i.e. teratoma with meningomyelocele. [Fig. 5 - 8].

Fig. 1. Clinical photograph of patient

Fig. 2. X ray picture [2 ossified digit seen]

Fig. 3. Gross photograph with mature foot

Fig. 4. Cut surface of specimen

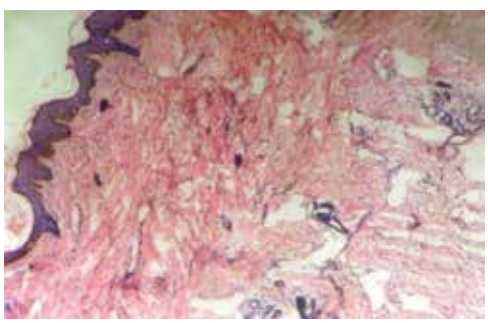

Fig.5. H & E [4x] Shows lining stratified squamous, adnexal tissue & neural tissue

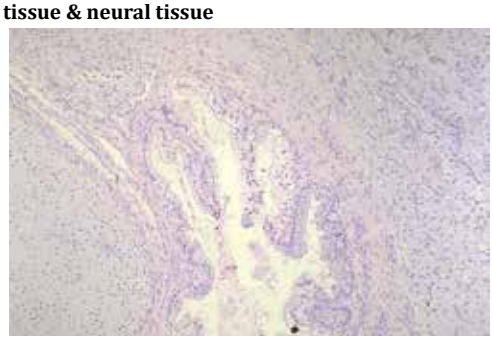

Fig. 6. H& E [10x] Shows chondroid tissue & neural tissue

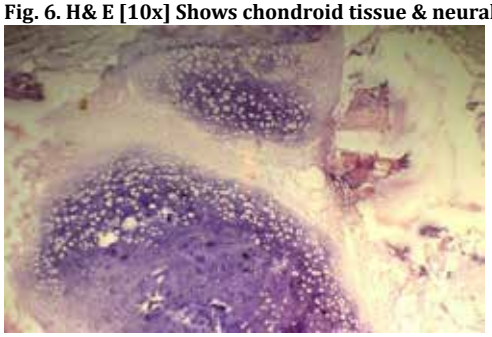

Fig. 7. H&E [10x] Shows chondroid tissue & focus of ganglionic cells

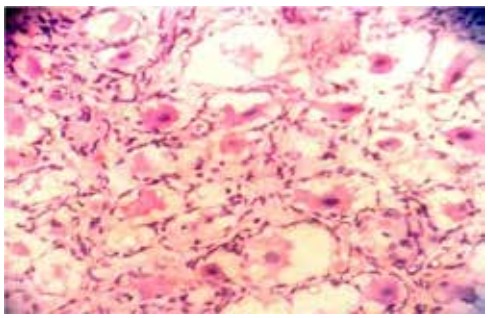

Fig. 8. H&E [10x] Shows ganglionic cells

Discussion:

Teratoma of the spinal cord is very rare. Sbooff, Kernohan and MacCarty (1964) reported only two cases in 1,322 patients with primary tumours of the spinal cord.[4] In all, 49 cases of spinal cord teratoma have been reported, the first by Gowers (1876) and the most recent by Padovani et al. (1983). Gowers (1876) reported an adult case with intradural myolipoma (teratoma) at the conus medullaris.[5] Hosoi (1931) reported one case of intradural teratoma. In 28 of the 49 reported cases, the tumour was a cystic teratoma, [6]

The origin of teratoma of the spinal cord is controversial. Kubie and Fulton (1928) speculated that the tumour was an ependymal diverticulum.[7] Ugarte, Gonzalez-Crussi and Sotelo-Avila (1970) hypothesized that the persistence of the neurenteric canal resulted in the formation of teratoma.[8] The theory of germinal cell aberration is supported by Bucy and Buchanan (1935) and Rewcastle and Francoeur (1964).[9]

Conclusion: Teratomas occuring at extragonadal sites are uncommon. Teratoma with meningomyelocoele occurrence at back with MATURE FOOT formation is extremely rare.

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