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CASE REPORT

Congenital Mesoblastic Nephroma in a Premature Neonate: Should We Give Adjuvant Chemotherapy?

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ABSTRACT

Congenital mesoblastic nephroma (CMN) is a rare renal tumor of infancy. Complete surgical excision is often sufficient. A premature neonate underwent left radical nephrectomy for CMN without any adjuvant therapy. Pathology was consistent with cellular type CMN. Six months postoperatively, the patient developed recurrence. He subsequently underwent re-excision without any adjuvant chemotherapy. The baby is tumor free for more than a year.

Key words: Congenital mesoblastic nephroma; Recurrence; Adjuvant therapy; Neonate

INTRODUCTION

Congenital mesoblastic nephroma (CMN) is generally considered a benign tumor.[1] Nephrectomy is usually curative and adjuvant treatment is not necessary.[1] However, more aggressive clinical behavior in the form of recurrence and metastasis has also been observed.[2,3] Herein, we report a case of recurrent congenital mesoblastic nephroma treated with surgery alone.

CASE REPORT

A 32-week-old preterm male neonate, delivered via a caesarean section on account of polyhydramnios, presented with a left flank mass. Abdominal ultrasonography suggested a heterogenous tumor arising from the left kidney. CT scan revealed left sided kidney mass measuring 55*51mm (Fig.2). The patient was operated and a left radical nephroureterectomy was performed (Fig.3). Histopathology confirmed it a cellular type of CMN. Due to the complete resection, adjuvant chemotherapy was not given. Three months after surgery, an ultrasound of the abdomen and pelvis was performed and it was reported as normal. However, 6 months postoperatively, abdominal ultrasonography showed a large intraperitoneal heterogeneous mass. Abdominal CT scan showed a large mass occupying left and central abdomen (Fig.4). Re-excision of the recurrent mass was performed. Histopathologic examination confirm the recurrence of cellular CNM with a histogenesis analogous to congenital infantile fibrosarcoma. Adjuvant chemotherapy was not given. Currently, the baby is 18 months old, with no signs of tumor recurrence on imaging.

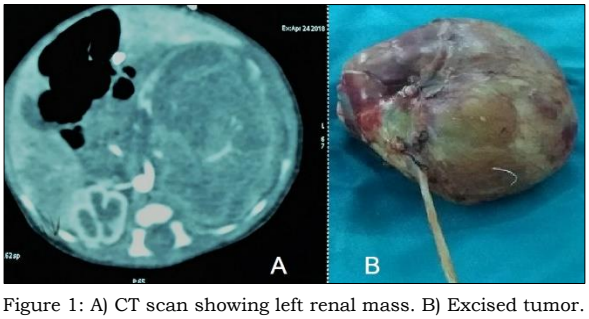

Figure 1: A) CT scan showing left renal mass. B) Excised tumor.

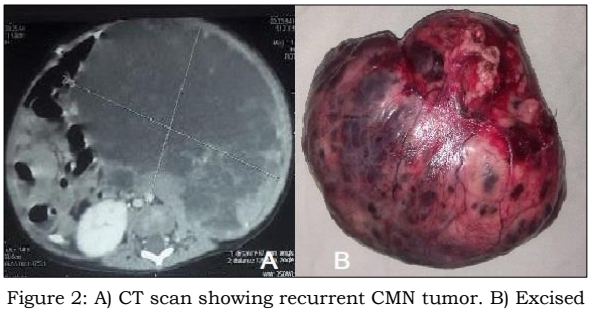

Figure 2: A) CT scan showing recurrent CMN tumor. B) Excised recurrent CMN tumor.

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DISCUSSION

CMN accounts for 4% of all pediatric renal tumors.[2] It is first described by Bolande in 1967 as a benign renal stromal neoplasm and typically affects neonates and small infants.[2] Diagnosis is frequently made as a mass identified on prenatal ultrasound and confirmed on histopathology.[1,2]

There are three histologic subtypes of CMN depending on the degree of cellularity and mitosis: classic (24%), cellular (66%), and mixed-type (10%).[1,2] The classic variant is considered benign with negligible risk of recurrence. However, the more aggressive behavior has been observed in the cellular variant with more risk of recurrence and metastasis.[1,2]

Radical nephroureterectomy alone is considered the adequate management for all variants of CMN.[2-7] The role of chemotherapy after initial surgery has been less clearly defined. There is no consensus on the indications of adjuvant treatment.[5,7] Few suggested the cellular variant can be treated by surgery and adjuvant chemotherapy with excellent results.[3] However, others stated that chemotherapy must be considered only if the tumor is inoperable or surgery would be likely to result in significant morbidity or in case of residual tumor.[7] Radiation therapy may not be beneficial but may increase toxicity.[7]

Our case is of interest for several reasons. First, at 32 weeks this patient is one of the youngest infants to be diagnosed with CMN, particularly with the cellular subtype, which is more common in older infants.[2] Second, the decision to not give adjuvant chemotherapy following resection in this type of scenario is controversial. It is impossible to say whether the adjuvant chemotherapy would have avoided recurrence or not as even after 1 year of re-excision no recurrence is noted. Similarly, it is unknown what residual side effects might have resulted from chemotherapy administration to such a premature neonate.

Conclusion:

Though CMN is largely a benign tumor with a vast majority of the patents being cured by surgical resection, cases of recurrence, especially of the cellular variant, have been documented. This case highlighted the dilemma involved in deciding whether to administer adjuvant therapy to neonates or young infants at higher risk for recurrence and metastases. The treatment should be tailored for individual patient and a balance between risk of recurrence and complications of chemotherapy, especially in premature neonates, should be established.

Consent: Authors declared that they have taken informed written consent, for publication of this report along with clinical photographs/material, from the legal guardian of the patient with an under-standing that every effort will be made to conceal the identity of the patient however it cannot be guaranteed.

Author Contributions: All the authors contributed fully in concept, literature review, and drafting of the manuscript and approved the final version of this manuscript.

REFERENCES

1. Tripathy PK, Behera S, K Mohanty H. Cellular congenital mesoblastic nephroma in a newborn. J Neonatal Surg. 2017; 6:45.
2. James DE, Sulkowski JP, Smith MC, Barone A, Parab S, Graziano J, et al. Congenital mesoblastic nephroma with distant metastasis in a premature twin gestation. J Pediatr Surg Case Rep. 2017; 17:6-8.
3. Anunobi CC, Badmos KB, Oneykwelu VI, Ikeri NZ. Congenital mesoblastic nephroma in a premature neonate: A case report and review of the literature. Nigerian J Clin Pract. 2014; 17:255-9.
4. Daskas N, Argyropoulou M, Pavlou M, Andronikou. Congenital mesoblastic nephroma associated with polyhydramnios and hypercalcemia. Pediatr Nephrol. 2002; 17:187-9.
5. Govani DR, Patel RV, Philip I. Multiple recurrent congenital mesoblastic nephroma (CMN) in an infant. Austin J Clin Case Rep. 2014; 1:1036.
6. Steinfeld AD, Crowley CA, O'Shea PA, Tefft M. Recurrent and metastatic mesoblastic nephroma in infancy. J Clin Oncol. 1984; 2:956-60
7. Jehangir S, Kurian JJ, Selvarajah D, Thomas RJ, Holland AJA. Recurrent and metastatic congenital mesoblastic nephroma: where does the evidence stand? Pediatr Surg Int. 2017; 33:1183-8.