Infantile Digital Fibromatosis In a Saudi Child

A. ZEKRI, M.D., F.F.R.C.P.S. and H. ZEKRI, M.D., M.S.
Consultant Plastic Surgeon, Department of Surgery, Division of Plastic Surgery, Northwest Area Armed Forces Hospital, Tabuk, Saudi Arabia; and Dermatologist in Cairo Specialist Hospital for Dermatology and Veneriology, Cairo, Egypt.

Abstract
Infantile digital fibromatosis is a rare benign swelling appearing in infancy and early childhood. This tumour was described as early as 1924, and reported for the first time in 1965. In this article, we report the first case among Saudi infants in the last ten years in the Northwest Area Armed Forces Hospital.

Case Report
A 2-and-a-half-month old male Saudi infant was brought to Northwest Area Armed Forces hospital presenting a swelling taking almost the medial half of his right 5th toe.

The tumour started to appear at the 1st month of life as small nodule arising from the medial border of the 5th toe. It has rapidly increased in size in one month’s time to attain the size of a bean, 1 × 1.5 cm. The tumour was firm with mild degree of tenderness on pressure. The overlying surface was smooth, shiny and erythematous. Later on, the whole digit was pushed laterally by the growing tumour.

Since the arrival of the infant, the clinical diagnosis of recurring digital fibrous tumour has been suspected and we started to observe its change biweekly because spontaneous regression has been observed by Ishii.[3] Even pressure therapy was tried by applying a pressing tape to help the regression of the tumour, but without any effect and the tumour continued to grow rapidly, enclosing the whole of the 5th toe. After 2 months of observation, the tumour was still increasing in size so the child was operated upon. We started by frozen section biopsy to be sure of the diagnosis;


89
then the whole digit was disarticulated from the head of the 5th metatarsal. The lateral cutaneous border of the 4th toe and a small suspicious nodule at the skin facing the lateral border of the head of the 5th metatarsal were also excised.

After complete excision of the tumour, the skin was closed with the help of small rotational flap to cover the lateral border of the 4th toe. The postoperative period was smooth, and the patient was discharged on the fifth postoperative day.

Stitches were removed at the tenth postoperative day after good healing. We are following the patient monthly with no recurrence till now; “8 months postoperatively”.

**Histopathology**

The tumour shows interdigitating sheets of spindle shaped fibroblasts and collagen fibres. Most nuclei of the fibroblasts are oval, vesicular and rounded, occasional mitotic figures could be seen\[4\]. We also found intracytoplasmic inclusion bodies with staining by iron hematoxylin\[5,8\]. These bodies are pathognomonic for this tumour\[11\].

**Discussion**

This case was the first case recorded in our hospital after reviewing the medical records of surgical, pediatric, pathology and dermatology departments. We also reviewed the Saudi Medical Literature, but nothing has been recorded about similar cases. “Recurring digital fibrous tumour of the childhood”, is the medical term first used by Reyé\[11\] to describe this tumour.

The etiology of the disease is still doubtful. Battifora\[7\] suggested that it could be viral in origin due to the presence of virus-like particles, usually adjacent to the intracytoplasmic inclusions. However, up to now, the virus has not been isolated. Mukai and his group\[8\] failed by their ultrastructural studies to show any structure that could be considered to represent a virus. This rare tumour is always at birth, infancy, or early childhood. Both sexes are equally affected. It is, either single or multiple lesions that occur in the fingers or toes. The tumour grows slowly and may adhere to the deeper tissues down to the periosteum. Despite the benignity of the tumour, there is a marked tendency for recurrence after excision more than 60%. Up to now, only 6 cases have been reported in the literature showing spontaneous regression; without treatment\[9,10\]. But sometimes long observation may lead to deformity or functional impairment\[11\] and also the number of these untreated cases is too little to determine the natural course of this tumour. In other instances, the tumour have progressed to such a degree that amputation has been necessary\[5,17,13\]. No instance of dissemination or distant metastasis have so far been reported\[3\].

In our case, the decision of our surgical staff to do amputation was based upon:

- The rapid growth of the tumour within 2 months enclosing the whole little toe pushing it laterally.
- The extension of the tumour to the lateral border of the adjacent toe “Kissing tumours”\[14\].
The site of the tumour being in the little toe that could be amputated without handicapping and also to assure no recurrence.

The technical difficulty to cover the degloved little two with skin flaps in such age if local excision was tried.

The approval of the family after being informed about the percentage of recurrence.

Now, after 8 months, we are happy to see that the patient has no recurrence and has a very satisfactory result both functionally and cosmetically.

So, conservative management by observing these benign tumours is advisable. However, if functional impairment or deformity of the affected digit occurs, surgery should be elective, removing the totality of the tumour, applying rules of tumour surgery and plastic surgery for repair.

Fig. 1. Plantar view showing the tumour.
Fig. 2. Lateral view with the arrow pointing to the digit pushed externally.

Fig. 3. Histological section showing interdigitating fibroblast and collagen fibres.
Fig. 4. Histological section showing interdigitating fibroblast and collagen fibres.

Fig. 5. One month post operatively.
References


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الأورام الليفيّة في الأنامل لدى طفل سعودي

أشرف زكري و حسام زكري
مستشفى القوات المسلحة ، تبوك - المملكة العربية السعودية ; ومستشفى القاهرة التخصصي للأمراض الجلدية والتناسلية ، القاهرة - جمهورية مصر العربية

المستخلص : إن الورم الليفي في الأصابع هو ورم قديم نادر يظهر في الرضع وفي مراحل الطفولة المبكرة . وكان رأى أول من نشر حالة عنه عام 1965م ، رغم أن ساقين كان قد وصفه لأول مرة عام 1944م .

ويصف هذا المقال الحالة الأولى التي شهدت بين الأطفال السعوديين في السنوات العشر الأخيرة في مستشفى القوات المسلحة لمنطقة شمالية الغربية .