CASE REPORT OLGU SUNUMU

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Axillary Mass Following BCG Vaccination: A Rare Case Diagnosed as Lipofibromatosis

BCG Aşısı Sonrası Aksiller Kitle: Lipofibromatozis Tanısı Alan Nadir Bir Olgu

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ABSTRACT We present a case of a 7-month-old male infant who developed a progressive, painless left axillary mass 2 months after Bacillus Calmette-Guérin (BCG) vaccination. Parents reported that the swelling has increased since the 4th month. Initial ultrasound revealed a 16×26×33 mm hyperechoic subcutaneous lesion with a central cystic area and minimal vascularity, suggesting a complicated lipoma. Due to continuous growth, the mass was surgically excised. Histopathological examination confirmed lipofibromatosis, a rare benign fibro-fatty tumor of infancy. Although axillary lymphadenitis is a common BCG complication, persistent or atypical lesions should prompt further investigation to rule out neoplasms. This case emphasizes the importance of considering rare soft tissue tumors like lipofibromatosis in the differential diagnosis of post-vaccination axillary masses.

Keywords: BCG vaccine; lipofibromatosis; fibroma; oft tissue infections; soft tissue neoplasms

ÖZET Bacillus Calmette-Guérin (BCG) aşısından 2 ay sonra sol aksiller bölgede ilerleyici, ağrısız kitle gelişen 7 aylık bir erkek bebek olgusunu sunuyoruz. Ailesi şişliğin 4.aydan itibaren arttığını bildirdi. İlk ultrasonografide, merkezî kistik alan ve minimal vaskülariteye sahip 16×26×33 mm hiperekoik subkütan lezyon görüldü ve komplike bir lipom olarak düşünüldü. Sürekli büyüme nedeniyle kitle cerrahi olarak çıkarıldı. Histopatolojik inceleme, bebeklik döneminin nadir görülen iyi huylu tümörü olan lipofibromatozisi doğruladı. Aksiller lenfadenit, yaygın bir BCG komplikasyonu olmasına rağmen persistan veya atipik lezyonlar neoplazmları dışlamak için daha fazla araştırmayı gerektirir. Bu olgu, aşı sonrası aksiller kitlelerin ayırıcı tanısında lipofibromatozis gibi nadir yumuşak doku tümörlerinin de göz önünde bulundurulmasının önemini vurgulamaktadır.

Anahtar Kelimeler: BCG aşısı; lipofibromatozis; fibrom; yumuşak doku enfeksiyonları; yumuşak doku neoplazileri

The Bacillus Calmette-Guérin (BCG) vaccine is routinely administered in infancy to prevent tuberculosis. The most common local complication is ipsilateral axillary lymphadenitis, which typically resolves spontaneously.[1] Other commonly reported adverse effects include subcutaneous abscess formation and, rarely, disseminated infection.[2] However, in rare instances, soft tissue tumors in the same region may mimic BCG-related inflammatory processes, leading to diagnostic delays.[3,4]

CASE REPORT

A 7-month-old male infant was brought to the pediatric clinic with a progressively enlarging, painless mass in the left axilla. An informed consent was obtained from the parents. The mass was first noticed by the family approximately two months after BCG vaccination. Notably, the BCG vaccine (normally administered at 2 months) had been delayed until the 5th month due to an upper respiratory tract infection at the routine vaccina-

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tion visit, after which the dose was postponed and subsequently administered at a later date.

At presentation, the infant had no fever, irritability, decreased appetite, or systemic symptoms. Physical examination revealed a firm, non-mobile, non-adherent subcutaneous mass measuring approximately 2×2 cm in the left axilla. The overlying skin was intact, with no erythema, warmth, discharge, or fistulization. The remainder of the physical examination was unremarkable.

Laboratory studies, including complete blood count, C-reactive protein, erythrocyte sedimentation rate, and peripheral smear, were within normal limits, with no findings suggestive of infection or hematologic malignancy. To evaluate for BCG-itis, chest X-ray, tuberculin skin test were performed; purified protein derivative was negative, X-ray was normal. There were no signs of disseminated BCG disease.

Ultrasonography demonstrated a 16×26×33 mm ill-defined, minimally vascularized hyperechoic subcutaneous lesion with a central cystic component, elevating the overlying skin. Initial differential diagnoses included complicated lipoma and atypical granulomatous lymphadenitis. Magnetic resonance imaging was recommended for further evaluation; however, due to interval enlargement over follow-up, surgical excision was preferred.

The patient underwent complete excisional biopsy without complications. The postoperative course was uneventful, and the infant was discharged on postoperative day one.

Pathological examination revealed an irregular fibrous lesion measuring 3×1.8×0.7 cm. Microscopic evaluation demonstrated spindle-shaped fibroblastic cells admixed with mature adipose tissue. Immunohistochemistry showed S100 positivity, with CD34 and smooth muscle actin negativity. Findings were consistent with lipofibromatosis, a rare benign fibrofatty tumor of infancy. Surgical margins were clear, and no recurrence was noted during follow-up.

DISCUSSION

Lipofibromatosis is a rare benign soft tissue tumor of early childhood. It usually appears in the first 2 years of life and presents as a slow-growing, painless subcutaneous mass.[5] Histologically, it consists of mature adipose tissue and fibroblastic proliferation.[6] Although most commonly affecting the extremities, unusual localizations such as the axilla have also been reported.[7,8]

Most post-BCG axillary masses are reactive lymphadenitis or granulomatous inflammation.[1] However, persistent, enlarging, or atypical lesions with vascularity on imaging should raise suspicion for neoplastic causes.[3,9] Importantly, the etiology of lipofibromatosis is still unclear, but lesions have been described at sites of prior trauma, infection, or injection; including vaccination sites.[10] This strengthens the possibility that BCG injection may have contributed to the local development or clinical recognition of the lesion in our case. A limited number of cases in the literature have described lipofibromatosis initially mistaken for BCG-induced lymphadenitis.[11]

What makes our case unique is the diagnostic challenge: while axillary masses post-BCG are generally managed as lymphadenitis, this patient's lesion represented a rare benign tumor mimicking a vaccine-related complication. Only careful follow-up and histopathological confirmation allowed accurate diagnosis. Similar cases have been rarely reported, including different anatomical sites such as the scalp.[12]

Differential diagnoses for axillary masses include lymphoma, infantile fibrosarcoma, and infectious lymphadenitis. Clinicians should keep these differential diagnoses in mind when evaluating an axillary mass associated with BCG vaccination. In the presence of persistent or progressive masses, investigations should include radiologic imaging and, if necessary, biopsy.

This case highlights that rare benign tumors may clinically mimic BCG-related complications. Careful clinical evaluation, imaging, and histopathological confirmation are essential to avoid misdiagnosis and ensure timely management.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

This study is entirely author's own work and no other author contribution.

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