Treatment of BCG Lymphadenitis

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BCG L EN FA DEN İTİN TEDAVİSİ

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SUMMARY

We analysed 54 cases of regional lymphadenitis due to BCG vaccination. The patients were seperated into 3 groups and each group were treated in a different way. The BCG vaccination was performed in the infancy period. The time interval between vaccination and the appearance of swelling of lymphnode was about 10.5 weeks. The treatment protocols were as follows:

Group I: Surgical excision and ISII (10 nig/kg/day) for 3 months.

Group 2: Surgical drainage and INH (10 mgl kg/day) for 6 months.

Group 3: Surgical excision without JNH

In group I. there were 14 cases. Twelve of these cases healed completely within a week. One case healed in a month and the other case in 2 months. In group 2, there were 24 cases. The healing period was as follows: Sixteen cases in a week four cases in 2 weeks, 2 cases in 2 months and one case in 3 months. In group 3. there were 16 case. Fifteen cases healed within a week. One case showed complete healing within a month.

The results suggested that in small lymphadenopathies where no fluctuation is noted, there is no need for any treatment or surgical excision can be performed. In cases where the lympadenopathy is large or fluctuating, surgical approach is recommended.

Key Words: BCG lymphadenitis

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BCG lenfadenitlerinin Tedavisi

BCG asısına bağlı olarak lenfadenit meydana gelen 54 vaka, 3 tedavi grubuna ayrıldı. BCG aşıları bebeklik döneminde yapılmıştı. Aşının uygulanışı ile lenfnodu şişliğinin fark edilmesi arasında geçen süre ortalama 10 5 hafta idi. Grupların tedavisi protokolü şu şekilde idi.

Grup 1 de lenfnodu cerrahi olarak çıkarıldı ıv INH (10 mg/kg/gün) 3 ay süreli ıvrildi.

Grup 2 deki hastalara cerrahi drenaj uygulandı ve INH (10 mg/kg/günl 6 ay süre ite verildi.

Grup 3 teki hastaların lenfnouMarı cerrahi olarak çıkarıldı. INH verilmedi.

Grup I de 14 vaka vardı. Hu vakaların 12 si bir hafta içerisinde tamamen iyileşti. Bu gruptaki bir vaka I ayda, bir vaka da 2 ayda iyileşti. Grup 2 de 24 vaka vardı. Bunların 16 sı 1 haftada, 4 ü 2 haftada, 2 si 2 ayda, 1 i de 3 ayda iyileşti. Grup 3 de 16 vaka vardı. Bunların 15 i ilk bir haftada. 1 i ise 4 haftada iyileşti.

Bu sonuçlar BCG lenfadenitlerinin tedavisinde erken tesbit edilen vahalarda yalnız başına (INH verilmeden) cerrahi olarak nodun çıkarılmasının yeterli olabileceğini düşündürmektedir.

ANALİLAR KELİMELER: BCG a^ısı

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BCG vaccine was first used in 1921 (1). Since 1950, it has been commonly used to prevent tuberculosis throughout the world (1-3). It is still the only preventive measure especially in developing countries.

Several complications can rarely develop due to BCG vaccination. Among these regional lymphadenitis is the most common (1,4-7). The other complications so far known are chronic ulceration, abscess

formation, osteomyletis, lung infiltration, disseminated BCG infection and fatal BCG itis (8-15). These complications occur more often in children below 6 years of age and especially in infants and also in immunodeficient patients (2,16-19).

In the treatment of BCG lymphadenitis, several methods such as antituberculous treatment, isoniasid (INH), erythromycin alone or in combination with surgery have been suggested. Some reports also suggest that there is no need for therapy especially in the absence of fistulization (1,2,20-24).

In our study, we tried to evaluate the results of several treatment modalities in 54 infants with lymphadenitis due to BCG vaccination.

MATERIAL AND METHODS

Fifty four infants with BCG itis were admitted to Karadeniz Technical University Farabi Hospital with the complaint of swelling in axillary region between November 1985 and May 1987. Out of 54 infants, 29 were male and 25 were female. The age of BCG vaccination were as follows: Thirty-eight cases at the first week, 2 cases at the second week, 2 cases at the sixth week, 5 cases at the second month and 7 cases after the tenth week of life (Table I). The BCG vaccination was performed intradermally on the left deltoid region at a dose of 0.1 ml by trained nurses in the maternity hospital of Trabzon.

Time lapse between vaccination and the appearance of lymphadenopathy varied from 15 days to 10 months, with a mean of 10.5 weeks (Table II). The infants were examined during their first admission. All of the infants were normal except the swellings of lymphnodes in axillary region. Chest x-ray and erythrocyte sedimentation rates were found normal. The induration following PPD (tuberculin test) ranged from 5-16 mm. There were no abnormalities. 2 months after the surgery.

Treatment Protocol

Group 1: (Fourteen cases)
Surgical excision and INH (10 mg/kg/day) for 3 months.

Group 2: (Twenty-four cases)
Surgical drainage and INH (10 mg/kg/day) for 6 months.

Group 3: (Sixteen cases)
Surgical excision alone.

The treatment modalities according to the duration of lymphadenitis are depicted in table III.

Surgical procedures were performed under lokal anesthesia on children premedicated with cardiological cocktail. All specimens were examined histologically and 15 specimens were cultured for tuberculous bacillus.

RESULTS

Group 1: In 11 of the cases, Total excision were performed and in 3 cases only 80 percent of the lymphnode was excised. Twelve of 14 cases healed within one week. Two cases in whom 80 percent of the lymphnodes were excised showed suppuration and healed within 1 and 2 months respectively (Table IV).

Table - 1

The Time of Vaccination

0-7 days after birth	7-15 days	4 th week	6 th week	2 nd month	3 the month and
38	-	-	2	5	7

Table - II

The Time of Interval Between Vaccination and Notice of Swelling

2 nd week	4 th week	6 th week	2 nd month	3 th month	4 th month	5 th month	6 month and
2	14	3	11	7	6	3	8

Table - **III**

Treatment Protocols According to the Duration of Lymphadenopathy

0-1 month	1-2 month	2-3 month	3-4 month	4-5 month	5-6 month	6-7 month	7 month and	TOTAL
15	16	4	2	2	5	2	8	54
* 7 SE +1NH	5 SE +INH	2 SE +INH	2 SD +INH	2 SD +INII	5 SD +INII	2 SD +INH	8 SI)	SE -1X11:1)
8 SE	8 SE 3 SD* +INH	2 SD -İMİ						SE: 16 SD + L\TI:24

*SE: Surgical Excision
*SD: Surgical Drainage

Table - **IV**

Period of the Healing In Groups

	Cases	TIME			
		1 st week	2 nd week	1 month	2-3 month
SE+INH	14	2	–	1	1
SD+INH	24	16	4	1	3
SE	16	15	–	1	–

Group 2: This group consisted of late cases with fluctuating lymphnodes. All of the cases were given INH (10 mg/kg/day) for about 3.6 months preoperative^. Eleven cases showed complete healing after 4 days of drainage. Five cases healed within a week, 4 cases healed within 15 days and 4 cases healed within 1-3 months.

Group 3: Fifteen of the cases showed complete healing within a week. Only 1 case healed within 4 weeks. No recurrences or complications were seen in the following period.

Histological examination of the excised lymphnodes revealed caseous necrosis, epitheloid cells, lymphocytes and Langhans' giant cells indicating tuberculous lymphadenitis (Figure 1). In 3 of 15 cases mycobacteria were grown on Loevenstein-Jensen media.

DISCUSSION

The incidence of lymphadenitis due to BCG vaccination has been reported as 0.1%-5% (1,2,7,17). In the pathogenesis of BCG itis, the immun status of the patient, the time of vaccination, the technique of BCG administration and also the dose and concentration of vaccine have been considered (2,6,8,16-18).

BCG complications have been more commonly seen in infantile period (2,5,7,15-19). F'or this reason, the value of the vaccine in neonatal period has been questioned.However Curtis reported the successful results in preventing tuberculous in infants who were vaccinated in the neonatal period. He stated that such minor complications shouldn't be a reason for postponing the vaccination in the neonatal period (3). In 40 of our cases, the vaccination was performed in

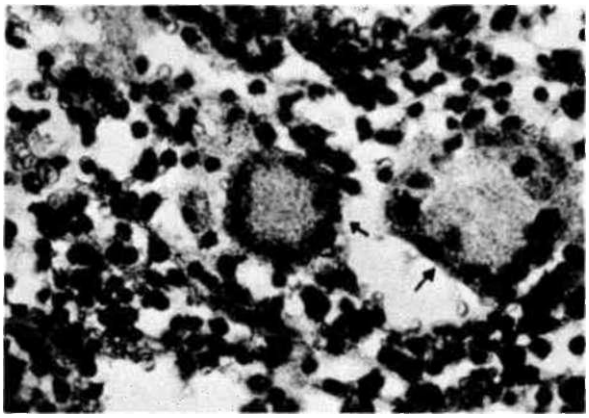

Figure 1. BCG lymphadenitis

the neonatal period and the rest were vaccinated after this period but within infancy.

The interval between vaccination and the appearance of regional lymphnode enlargement has been reported as 2 weeks to 3 years (1,2,25). In our cases, this period ranged from 15 days to 10 months with an average of 10.5 weeks.

Various treatment schedules have been suggested for BCG itis. Sharma stated that the administration of INH prevented liquefaction of lymphnodes due to BCG vaccination and also reduced the clinical course of BCG itis (2). Bhandri suggested that in suppurative form of BCG itis surgical treatment is necessary, where as in nonsupurative forms there is no need for medical or surgical treatment (26). Abdullah compared the results of 8 needle aspiration plus INH and surgical excision plus INH in the treatment fo BCG itis and he suggested that surgical excision plus antituberculous therapy is superior to other forms of therapy in the treatment of suppurative BCG itis (1). Tarn reported that total excision of the lymphnodes combined with streptomycin for 2 months and rifampisin and INH for 6 months resulted complete healing with no recurrence (27). Although erythromycin was recommended in the treatment of BCG itis, Hanley found no curative effect of INH or erythromycin on BCG induced lymphadenopathy (21-23). Goçmen also stated that the administration of INH did not shorten the duration of lymphadenitis and he suggested that BCG itis required no therapy (24).

We performed surgical excision and INH therapy to 14 cases. Twelve of them showed complete healing within a week and no recurrence was noted. In these cases, the duration of lymphadenopathy was about 1.2 months before excision and INH therapy was continued for 3 months. The other 2 cases showed suppuration for 1-2 months after surgical excision. In these 2 cases, the duration of lympadenopathy before surgical excision were 2 and 3 months respectively and only 80 percent of the lymphnodes were excised. In group 2, there was a history of INH therapy for 3.6 months. In these cases, we performed surgical drainage was the presence of fluctuating lymphadenopathy for 3-4 months. Sixteen of 24 cases healed within a week and four of them healed within 2 weeks. Rest of the cases (4 cases) showed suppuration for 1-3 months. The duration of the swelling in these 4 cases were 2-3 months. Our results suggested that critical time for darinage was 3-4 months, below which the performance of drainage resulted with fistulization. In cases wehere surgical drainage was performed after 3-4 months, complete recovery was noted in the early phase. In 16 cases, surgical excision were performed without INH. Before excision, 14 of them were nonsuppurative and in 2 of them suppuration was present. No postoperative complication was noted. Complete healing occured immediately in 15 cases. But one case healed within 4 weeks after excission. In the following period, no recurrences was noted. The results suggested that in early diagnosed cases where the lymphadenopathy is small without fluctuation, no therapy is needed or surgical excision can be performed. In suppurative cases and also in lymphadenopathies with fluctuation, surgical excision or darianage seems to be a better approach.

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