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BCG vaccine in children and development of tuberculosis: it has a real protective effect in endemic population

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Tuberculosis (TB) is a neglected disease with estimates of one-third of world's population infected. BCG Vaccine are considered safe, preventive and cost-effective, at Braizil, it is mandatory at birth. World's strategies for decrease tuberculosis are not been succeeded, because of difficulties in precise diagnosis and delay on beginning treatment, despite vaccination. Recife (Pernambuco State, Brazil) is endemic for TB (78.3cases/100.000hab). The study evaluated the protective action of BCG.

Two different groups of children (>15years), from hospitals of Recife, were analyzed: Group A (data collected 2003-2006) and Group B (2011-2016) and other group of adult (2011-2016). Gold-standard was clinical criteria and specific treatment response, according to WHO guidelines for TB. All statistical conclusion was made on 5% of significance and data were analyzed on SPSS by X^2 test and Binary logistic regression.

In both children groups, there were no statistical difference (p=0,26) between have BCG scar and develop TB (latent or active), including kids with contact with bacillipherous adult. To have BCG´s scar and have or not TB in adults had statically difference (p=0,02), detailed in table 1.

Analyzing only raw data, it can have concluded that in region with very high rates of TB, to have or not BGC do not protect kids against disease. When data were associated with “having contact with bacillipherous patient”, p-value was not significant. Demonstrating that it could have a confounding factor, like time of exposition of "Mycobacterium tuberculosis" longer than 15years. In adults, BCG showed protective effect to TB, however, time of enviromental exposed are higher than in children. Findings suggest that further research with more patients and in other endemic regions should be performed, as so, studies for a more effective vaccine against all forms of TB should be done.

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Conflicts of Interest
None

Variables in the Equation – GROUP A

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Scar of BCG	-1,137	0,832	1,867	1	0,172	0,321
	Constant	1,099	0,816	1,810	1	0,178	3

a. Variable(s) entered on step 1: scar of BCG.

Variables in the Equation – GROUP B

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Scar of BCG	1,508	1,126	1,793	1	0,181	4,516
	Constant	-1,609	1,095	2,159	1	0,142	0,200

a. Variable(s) entered on step 1: Scar of BCG.

Table 1: Binary logistic regression for skin test result and BCG's scar *versus* diagnosis of TB (latent or active) or not TB (Group A and B, respectively).