DOES MEASLES CAUSE HYPERTENSION?

BY

C. CHOREMIS, CH. TSENQHI and C. ECONOMOU-MAVROU

From the Paediatric Clinic of Athens University

(RECEIVED FOR PUBLICATION NOVEMBER 5, 1954)

It is well known that measles seldom affects the circulatory system. Complications appearing under the form of myocarditis are rare (Year Book of Paediatrics, 1945). Our special interest, however, was stimulated by the increased blood pressure found during the acute stage of the disease.

In the bibliography available to us we found nothing relating to hypertension in measles, and we feel it is therefore worth while analysing our findings in detail.

The blood pressure of 62 patients, aged between 3 and 13 years, was taken using a mercury manometer with a cuff 7 cm. wide for children below 6 years and 14 cm. wide for the older ones. The values found were compared to those given in the table of Sunda (Catel, 1951).

The blood pressure was considered increased when the systolic pressure was at least 15 mm. above normal and it was appreciably raised in 40, or 60% of the 62 cases. It is well known that accurate estimation of the diastolic pressure is difficult. Fluctuations have been reported depending upon the method of determination (Brock, 1932). We therefore checked the systolic pressure only.

Every possible precaution was taken to ensure the accuracy of our results. Blood pressure was repeatedly determined by several colleagues at the same time. It was also determined in 140 patients of the same age treated in our clinic for disease not causing hypertension and receiving no medication which could influence blood pressure. An increase of over 15 mm. was noted in 30, i.e., in 22-5%. We wish to stress, however, that repeated determinations in many of the above cases proved that hypertension was permanent whereas in measles it was always transitory.

In measles the increase of blood pressure was already present during the catarrhal stage and reached its peak during the eruptive phase. It lasted three to four days and slowly decreased, so that pressure returned to normal values after eight to 10 days.

This hypertension was more evident in children between 3 and 6 years of age, of whom we have had the opportunity to examine a great number.

In Figs. 1 and 2 we give the pressure readings according to the age and number of patients. In searching for the probable aetiology (pathogenic mechanism) of this type of hypertension it seemed to us possible to attribute it to endocrine causes, bearing in mind that it is generally accepted today that measles causes oedema and hyperfunction of the adrenal cortex (Macciotta, 1931). Though this explanation is probably the correct one, the participation of other more central factors cannot be excluded. We find a similar example of hypertension for instance in poliomyelitis (Bower, Morgan and Chaney, 1952), where it is believed that the virus stimulates the anterior lobe of the pituitary gland or the reticular cells located in the ventromedial area (Sennett, Perlstein, Andelman, Barnett and Josephy, 1951; Baker, Matzke and Brown, 1950), and through them the adrenal cortex, thus causing hypertension.

REFERENCES


Year Book of Pediatrics, p. 77 (1945).
Does Measles Cause Hypertension?

C. Choremis, Ch. Tsenghi and C. Economou-Mavrou

Arch Dis Child 1955 30: 264
doi: 10.1136/adc.30.151.264

Updated information and services can be found at:
http://adc.bmj.com/content/30/151/264.citation

Email alerting service

These include:
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/