Primary Varicella Pneumonia

By

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Varicella is usually a mild and benign disease and its severe complications are rare. Bullowa and Wishik described 133 cases with complications among 2534 cases of the disease. These complications included secondary infections of vesicles, otitis media and pneumonia. According to Mitchell and Fletcher, the most frequent complications in 775 cases of varicella were furunculosis and otitis media, bronchopneumonia being the next in frequency. The above mentioned pneumonia associated with varicella were caused by secondary bacterial infections. Reports of primary varicella pneumonia are few in number and these reported cases were almost all adult cases.

In the present paper I shall describe the first report of primary varicella pneumonia in Japan; besides, this is about cases of children.

REPORT OF CASES

Case 1. Boy, aged 5 years and 10 months. He noticed a rash in his body and simultaneously complained of cough on July 8, 1957. The rash spread rapidly over his whole body and coughs increased in frequency and in intensity. He visited our Hospital on July 10, 1957. On examination, he was slightly malnourished and his skin showed characteristic varicella macules, papules and vesicles over the face, the chest, the abdomen, the extremities, the palmes and the soles. These papules and vesicles were partly confluent. The pharynx was reddened and vesicles were found in the mouth. Heart sounds were clear. Examination of the chest revealed no dullness over the lungs on percussion, where only somewhat roughened breath sounds were heard. The liver and the spleen were not palpable.

Course. Vesicles and papules increased in number and on July 11 fever rose up to 39.5°C and coughs were still intense. Physical examination of the chest did not show any striking change and he was not dyspneic as not on the previous day. On July 12, when he came to our Hospital, fever was 37.1°C,
but rose up to 39.5°C on this evening. On July 13, when he came to us, fever was 36.7°C and coughs became less frequent. On July 15, no fever was noticed and he coughed hardly ever. Tetracycline was given for three consecutive days from July 12 on. Roentgenogram of the chest showed in the lower part of the right lung a shadow adjoining the heart and the diaphragma on July 10 (Fig. 1). This shadow was not seen any more on July 18 (Fig. 2).

Laboratory findings. As for blood picture, on July 13 red cell count was 4,700,000 per cmm, hemoglobin 83 % after Sahli’s method, and white cell count was 19,800 per cmm. Neutrophils were 20.0% lymphocytes 75.0 % and monocytes were 5.0 %. Platelet count was 360,900 per cmm. Tuberkulin test was negative. Red sedimentation rate was 24 mm on July 11, and 11 mm on July 18 in the first hour. The titer of cold agglutinin was on July 11, 1 : 32 on

![Fig. 1. Roentgenogram of the chest of Case 1. Shadow in the lower part of the right lung adjoining heart and diaphragma.](image1)

![Fig. 2. Roentgenogram of the chest of Case 1, 8 days later. No more shadow.](image2)
July 18, 1:2. Urine was normal.

Case 2. Boy, aged 3 years and 3 months. A rash with fever was noticed on June 7, 1956. The rash spread rapidly over the whole body and he complained simultaneously of cough. He visited our Hospital on June 8, 1956. On examination, he was moderately nourished and his whole body was covered with numerous characteristic varicella macules, papules and vesicles. Heart sounds were clear. On the chest and the abdomen no abnormalities were found except the rash. His temperature was 37.5°C.

Course. On June 9, he was still feverish. On June 10, he complained of high temperature in the morning and he seemed tired. Coughs became more and more intense. Crepitant rales were heard over the whole lungs and on the lower part of the left lung fine moist rales were heard. On June 13, fever abated and the rales over the chest became almost inaudible. The coughs also diminished. Roentgenogram of the lungs showed a swelling of both hili and spotted shadows in the right lung, specially in the lower part of it.

Laboratory findings. As for blood picture, on June 10, red cell count was 3,850,000, hemoglobin 85% after Sahli's method, and white cell count was 8,800. Neutrophils were 55.0%, lymphocytes 30.5%, monocytes 10.5%, and vireocytes were 4.0%. Red sedimentation rate was 32 mm in the first hour.

Case 3. Boy, aged 1 year and 6 months. Fever was noticed with varicella rash and cough on December 15, 1956. Vesicles, papules and macules increased in number and the coughs became more and more intense. He visited our Hospital on December 17, 1956. On examination, he was moderately nourished and his whole body was covered with numerous characteristic varicella macules, papules and vesicles, and these papules and vesicles were partly confluent. Slight dyspnea and movement of alae nasi were noticed. Heart sounds were clear. Pulse rate was increased. The roughened breath sounds were heard over the lungs. The pharynx was reddened.

Course. On December 18, his general condition improved, and then fever abated. Coughs diminished day by day. Red sedimentation rate on December 17 was 18 mm in the first hour. Roentgenogram of the lungs showed increased density of both hili, spotted shadows in the middle of both lungs and a diffuse infiltration near the left hilus.

COMMENT

The clinical features of the present three cases will be summarized as follows:

1) Coughs occurred almost simultaneously with varicella rash and increased gradually in frequency and in intensity.

2) The cough was very intense and obstinate.

3) The rash was extensive, and eruptions were numerous. Eruptions were found also in the mouth. Fever was high and the general condition was
considerably bad.

4) The physical findings of the chest were slight, though the roentgenogram showed remarkable findings.

5) In the blood picture, though leucocytosis was noticed in Case 1, there was also lymphocytosis. In Case 2, leucocytosis was not noticed.

6) Cold agglutination test was negative in Case 1.

The above mentioned features will indicate that the pneumonia of the present three cases was not caused by any secondary bacterial infection, but by varicella virus itself.

Reports of primary varicella pneumonia in childhood are few in number. Lucchesi et al. and Oppenheimer reported on the basis of autopsy findings pneumonic affection in cases of varicella neonatorum. Except these reports about the newborn, there was only a case of varicella pneumonia in childhood—the case reported by Waldman. On the basis of literature survey and my own experience, varicella pneumonia seems to be milder in the childhood with the exception of the newborn than in the adult.

SUMMARY

Three cases of primary varicella pneumonia were reported. Clinical features and laboratory findings of these three cases revealed that pneumonias of these three cases were all caused by varicella virus itself. This is the very first report of primary varicella pneumonia in Japan.

References