Allergic Tracheobronchitis Due to Nitrofurantoin Sensitivity

Report of a Case

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There has been increasing awareness of the association of nitrofurantoin (Furadantin††) to pulmonary allergic sensitivity. Because of the widespread use of this drug in the treatment of urinary tract infections, we now record a seventh case of pulmonary allergic sensitivity.

CASE REPORT:

A 45-year-old white baker was admitted to Jefferson Medical College Hospital on January 7, 1964. He gave a past history of severe systemic sensitivity reaction to penicillin approximately 15 years before admission and suffered from hay and rose fever.

In November, 1963, he received nitrofurantoin for two weeks as treatment for a urinary tract infection. The drug was discontinued because he developed dyspnea, dry cough, chills and fever and maculopapular scaling rash on both legs. He then received tetracycline for his pulmonary symptoms. After 24 hours, the pulmonary symptomatology, chills and fever had abated, but the rash persisted.

On December 31, 1963, his urinary tract infection recurred and nitrofurantoin was administered for one week until the day prior to his admission when he again developed the same set of symptoms and signs and tetracycline was begun again.

On admission to Jefferson Medical College Hospital on January 7, 1964, he was symptomless. His temperature, pulse rate, blood pressure and respirations were normal and he was in no distress. Examination revealed a maculopapular erythematous rash across his lower back and legs with scaling of his feet. Chest examination showed coarse breath sounds at the right base posteriorly. The remainder of his examination was normal except for a small penile meatus and a two plus symmetrically enlarged doughy soft tender prostate gland.

Blood specimen on admission revealed hematocrit of 43 per cent, hemoglobin 13.1 gm./100 ml., white cell count of 12,600 cmm., with 57 segmented neutrophils, 11 stab forms, one metamyelocyte, one myelocyte, 16 lymphocytes, six monocytes and eight eosinophils. His urine was clear and yellow and no cells or bacteria were noted microscopically on a centrifugal specimen. His chest roentgenogram was consistent with bilateral tracheobronchitis.

All medication was discontinued and he remained well. He underwent transurethral resection of the prostate on January 10, 1964 and had an uncomplicated postoperative course.

A blood specimen on January 10, 1964 prior to surgery revealed hematocrit of 47 per cent, hemoglobin 14.7 gm./100 ml., white cell count of 14,850 cmm., with 55 segmented neutrophils, six stab forms, 32 lymphocytes, three monocytes, and four eosinophils.

On January 16, 1964, when he had recovered from surgery, he agreed to be tested for nitrofurantoin sensitivity. Nitrofurantoin 50 mg. was given orally at 9:10 a.m. At 12:15 p.m., he began to wheeze, became dyspneic and developed a throbbing headache. His temperature rose to 100.4°F and the pulse rate became rapid. He required two 50 mg. intramuscular doses of diphenhydramine to alleviate these symptoms. Chest roentgenogram showed hyperaeration and increased bronchial markings. His blood specimen on the following day revealed a white cell count of 12,600, with 45 segmented neutrophils, two stab forms, 24 lymphocytes, two monocytes, and 27 eosinophils.

DISCUSSION

In three prior case reports,1,3 pulmonary infiltrates were noted on roentgenograms. Three others and our case differ in that no infiltrates were present radiologically.4,6

All seven patients had fever, chills, dry cough, dyspnea and significant eosinophilia. However, because the association of tracheobronchitis and nitrofurantoin sensitivity is not well known, four of the patients received tetracycline or penicillin therapy for their respiratory symptoms, before the association was recognized.
REFERENCES


TRANSPOSITION OF GREAT VESSELS

A simple closed procedure of repositioning the auricular septum to allow the right pulmonary veins to drain directly into the right auricle has been effectively carried out in eight children with transposition of the great vessels with pulmonary overcirculation. There has been one early death and two late deaths in this series. Cyanosis was improved to a much greater extent than in any previous palliative procedure that we have carried out for this highly lethal condition. This procedure produces a left-to-right shunt of oxygenated blood directly into the systemic auricle and ventricle and at the same time decompresses the pulmonary circulation.


IMPORTANCE OF ROENTGEN- AND ELECTROKYMOGRAPHY IN DIAGNOSIS OF FOCAL LESIONS OF MYOCARDIUM

This paper deals with an analysis of the results of x-ray investigation of 60 patients with aneurysm of the left ventricle, chronic coronary insufficiency and myocardial sclerosis after myocardial infarction. There was found a complete similarity of roentgenokymographic and electrokymographic data in two-thirds of cases. In the remaining patients, electrokymographic investigation to a greater or lesser degree supplemented roentgenokymographic data. An increase of wave amplitudes on the electrokymogram and simultaneous electrocardiographic recording help to analyze more precisely the movements of the left ventricular wall at different phases of the cardiac cycle. Studies of the amplitudes of cardiac contractions and localization of the lesion are more obvious on the electrokymograms.

Complete paradoxical pulsation on the roentgenokymogram and electrokymogram is a sign of significant thinning of the scar and is characteristic of left ventricular aneurysm. A sign of scar thinning on the roentgenokymogram is the symptom of regional transverse triation and of an increased amplitude of paradoxical pulsation at the center of the lesion. Pointing to large voluminous oscillations. On the electrokymogram they are represented by a considerable amplitude and duration of partial systolic expansion in respect to the whole area. On roentgenokymograms and electrokymograms in transient zones there was noted a decrease of the amplitude and duration of paradoxical movements in comparison with the central area of the lesion, reduction of the amplitude of contractions, prolongation of the latent time and other signs of mild disturbances of the contractile capacity of the myocardium.


EFFECT OF SECOND LINE DRUGS ON VIABILITY OF TUBERCLE BACILLI IN RESECTION SPECIMENS

Two hundred nineteen specimens from tuberculosis patients treated with resection of the lung tissue were examined. Group I included patients treated with the major drugs for at least four months; group II included patients treated with the second line drugs for at least four months; group III included patients treated with various drugs, but in whom the treatment was either too short or faulty. The number of cases in the groups was 70, 78 and 71 respectively.

Microscopy detected tubercle bacilli in 61.4 per cent of group I, 28.2 per cent of group II and 78.9 per cent of group III specimens. Tubercle bacilli were grown from 12 specimens out of 148 of group I and II, i.e., 8.1 per cent. The difference between the percentage of positive cultures in group I and group II was statistically not significant. In 67.6 per cent of the specimens, the cultures yielded positive results. The statistical difference between the first two groups and the third group was significant. The persistance of viable bacilli in the specimens is not related to the character of the lesions since bacilli were detected in cavities as well as in tuberculomas. The second line drugs are of equal value as the major drugs and they can sterilize tuberculosis foci provided they are administered in proper regimens.