

COINCIDENTAL OR CAUSAL RELATIONSHIP BETWEEN ACUTE PERICARDITIS AND HEPATITIS B VACCINATION?

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ABSTRACT

Hepatitis B vaccination is usually well tolerated. It might be followed by minor but serious side-effects, such as acute pericarditis. However, a causal relationship between hepatitis B and the observed acute pericarditis cannot be easily established. We report a case of benign acute pericarditis occurring after primary vaccination against hepatitis B.

Keywords: Hepatitis B, Vaccination, Pericarditis, Side-effects.

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INTRODUCTION

Hepatitis B vaccine was recommended for adults or children at high risk of hepatitis B (HBV) infection [1]. Both plasma-derived and recombinant hepatitis B vaccines are safe to administer to adults and children. The side-effects are usually minor, consisting to early local reactions, fever, headache, tiredness, and arthralgia [2]. Those reactions resolve within 24 to 48 hours. Serious adverse effects have been observed more rarely [2].

CASE REPORTS

A 20 yearsold woman was admitted at the emergency department with shivering, arthralgia, and chest pain that increased with deep breathing. The patient had no significant medical history. No problem of allergy and auto-immune disorder were ever encountered. The symptoms were developed only 5 days after she received the primary vaccination against hepatitis B (ENGERIX B). Physical examination revealed the following results: BP: 120-80mmHg; pulse rate: 100beats/min; and temperature: 37, 5°C. The heart sound showed a precordial friction rub. The results

of 12-lead electrocardiogram showed normal sinus rhythm, with a smooth depression of a prolonged PR interval (PR: 240ms) (figure 1).

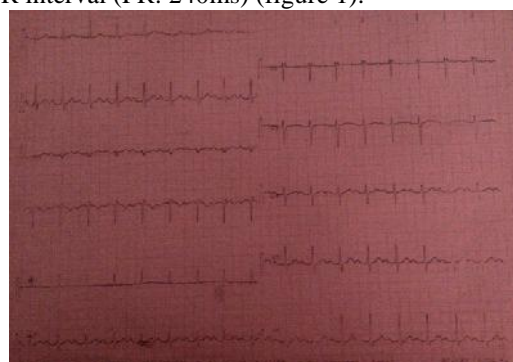


Figure 1: sinusal rhythm with smooth depression of prolonged PR interval.

Chest radiography was normal. The laboratory investigations on admission showed the following results: WBC count: 10.000/mm³; C-reactive protein: 6mg/dl; erythrocyte sedimentation: 2mm/h; and ASLO were negative. The chemistry profile was normal. The result of rheumatoid factor test was negative. An echocardiography revealed a minor pericardial effusion, without any valvular disease (figure 2).

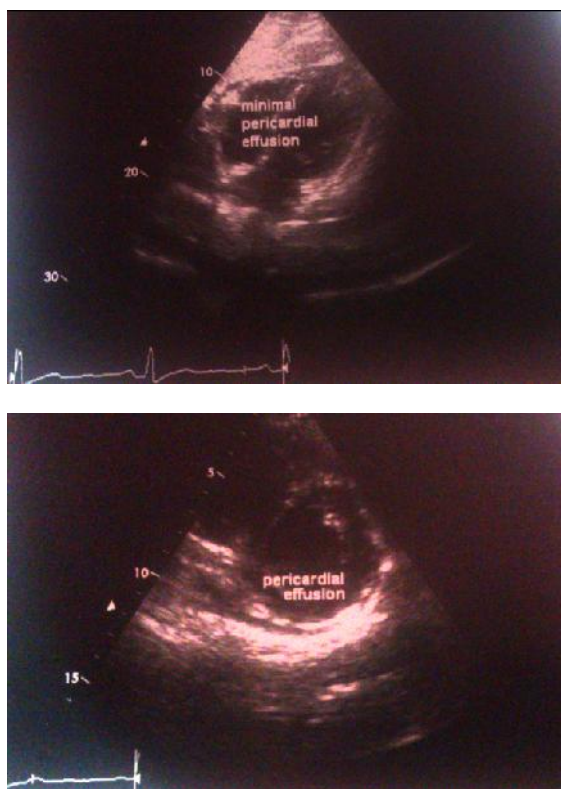


Figure 2 : minimal pericardial effusion

The patient was treated with aspirin, 1g t.i.d., for one month. Clinical improvement was observed after a few days with normalization of PR interval (PR: 140ms). After 30 days, the echocardiography showed a complete disappearance of the pericardial effusion, and aspirin was discontinued. Follow up of Two years was favorable; the patients showed no recurrence of pericarditis.

DISCUSSION

Only a few cases of pericarditis after vaccination against hepatitis B have been published in the literature. In 1985, Caillard and al. reported the first case of acute pericarditis in a study of 1047 patients after hepatitis B vaccination [3]. In 1987, Nutini and colleagues described a similar case in two young patients [4]. At that time, the National Center of Drug Monitoring in France reported five cases of pericarditis after hepatitis B vaccination [3- 6]. All cases were described after the primary vaccination of hepatitis. Obviously, in our patient 5 days elapsed between the vaccination and the development of pericarditis, thus supporting the triggering role of vaccination. The time elapsed since vaccination was practically similar to the data in the literature.

In any case, the reason that the vaccination was the suspected cause of pericarditis relates to the chronology of the complication, as well of the resolution, and the fact that no other viral causes were onset of the relapse of the diseases in individuals with underlying genetic and immunological susceptibility [7]. Unfortunately, the number of cases may not have been sufficient to confirm this causal effect. Finally, a question could be raised about health safety in the pursuit of vaccination.

CONCLUSION

Such cases of patients with pericarditis after hepatitis B vaccination are rare, but the true incidence of this illness is probably underestimated. However, this complication does not outweigh the beneficial effects of hepatitis B vaccination in patients at risk.

Conflict of interest

The authors declare that they have no competing interest.

A written informed consent was obtained from the patient for the publication of this paper and the attached images.

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