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LETTER TO THE EDITOR

Development of autoimmune hepatitis after influenza vaccination; trigger or killer?

Sir,

We report the case of an old man (78 years) referred to our centre because very high values of liver blood tests (both transaminases and total bilirubin). His past medical history was negative in terms of hospitalization and surgery. He did not take any drug.

Ten days before, the patient had undergone anti-influenza vaccination and after 4 days a continuous fever with abdominal pain developed. After other three days hyperchromic urine and hypocholic feces appeared and the patient was admitted to the hospital.

At admission his liver levels were as follows: serum aspartates aminotrasferase 1212 U/L (normal value < 40) and serum alanino trasferase 1575 U/L (normal value < 40) total bilirubin 18.8 mg/dl (normal limit 0.8 mg/dl), IgG 2334 mg/dl (normal value 700—1600), INR 1.3 (normal value until 1.1), Albumin 38 gr/L.

All the causes of acute hepatitis (viral, drugs) have been rule out by appropriate tests.

The ultrasound examination was normal without any abnormalities at biliary tract.

The research for non-organ specific autoantibodies performed by indirect immunofluorescence revealed a seropositivity with SMA-T pattern at titre 1:640 on rat tissues and for anti anti nuclear antibodies with pattern speckled at titre 1:320 on HEp-2 cells.

The liver biopsy showed a high activity hepatitis with massive limpho-plasmacellular infiltrate, rosette and bridging necrosis (grading 15, staging 3 Ishak' Score).

The application of the simplified score of AIH diagnosis gave a score of 8 points for a definite diagnosis of AIH. A steroid therapy with metyl-prednisolone (1 mg/kg/die) has been started immediately with a dramatic response in term of reduction of transaminases and total bilirubin.

To date the pathogenesis of AIH is still unknown and the most reliable hypotheses support the idea that viral infections can play a pivotal role in activating the immune system acting as a trigger in genetically predisposed subjects [1]; In this regard there are several reports documenting an association between some viruses such as Ebstein Barr, Hepatitis A virus, Hepatits C virus, Herpes virus and liver autoimmunity [2]; the mechanism that from a viral infection could lead to the development of autoimmunity finds its explanation in molecular mimicry [1].

Instead only few data are available on both the development and reactivation of AIH after vaccination; the description of a reactivation of AIH after HAV vaccination [3] reinforce the suspect that HAV could be play a role in the development of liver autoimmunity as hipothesized many years ago [4]; at present, the only reports concerning the association between AIH and influenza virus are represented by the description of the development of an AIH in the context of an influenza syndrome in progress [5] and by two recent cases in which AIH followed influenza vaccination after 7 and 30 days respectively [6]. These two last reports are similar to ours where the admission to the hospital for acute hepatitis happened after ten days from the vaccination.

In addition to the temporal link, another aspect that would seem to indicate a pivotal role of vaccination in the induction of the disease is the low fibrotic component at the histological level that suggests a real acute onset of the disease and not a reactivation of the same on a chronic picture.

Clearly, our assessment of the responsibility of the influenza vaccine in the induction of AIH can only be speculative and cannot be certain, and also for this reason the description of this case should not be interpreted as a proof against vaccinations.

Compliance with ethical standard

This article does not contain any studies with human participants or animals performed by any of the authors. For this type of study, we received authorization from local ethical committee.

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Disclosure of interest

The authors declare that they have no competing interest.

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