

## Muscle pathology patterns in possibly adjuvant related autoimmune/inflammatory syndrome (ASIA)

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Growing evidence shows a link for biologically inert molecules, such as vaccine adjuvants and silicone implants, with the occurrence of autoimmunity-related disorders, defined as autoimmune/inflammatory syndrome induced by adjuvant-ASIA (1). Clinical conditions encompass siliconosis, the Gulf war syndrome, the macrophagic myofasciitis syndrome (MMF), post-vaccination phenomena and the spectrum of related syndromes is expanding (2). Involvement of skeletal muscle in ASIA is acknowledged in MMF, defined by long-term persistence of vaccine alum adjuvants within macrophages at sites of previous immunization. A few reports describe vaccine and silicone implants related autoimmune inflammatory myopathies (3). We carried out an immunopathological analysis of skeletal muscle biopsy in a case of MMF and two cases of possible ASIA myositis, chronologically subsequent to breast silicone implant. MMF showed the typical fascial/perimysial macrophagic invasion, with no endomysial mononuclear infiltrates and fibral neolocalization of MHC-I complex restricted to the adjacency of macrophage deposits. The first myositis case presented with a subacute onset twenty years after an uneventful additive breast silicone implant. Endomysial inflammation, microangiopathy and multifocal fibral localization of MHC-II complex were observed. In the second patient, the onset of proximal weakness, myalgiae and a tenfold increase of creatin kinase levels occurred seven years after an unsuccessful additive mastoplasty, with rupture of prostheses and re-implantation three years later. Muscle biopsy, besides inflammation changes, showed peculiar myofibrillar disruption, with MHC-I reactive sarcoplasmic inclusions expressing several structural muscle proteins. Molecular pathogenesis of ASIA is yet undefined: genetical susceptibility is currently investigated (1,2). Due to the role of vaccines in medicine and the wide use of silicon medical devices, identification of their cause/effect link with autoimmunity is of great interest.

### References

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### Keywords

ASIA; myositis; adjuvants.