A Parsonage-Turner Syndrome associated to tubercular infection: a case report.

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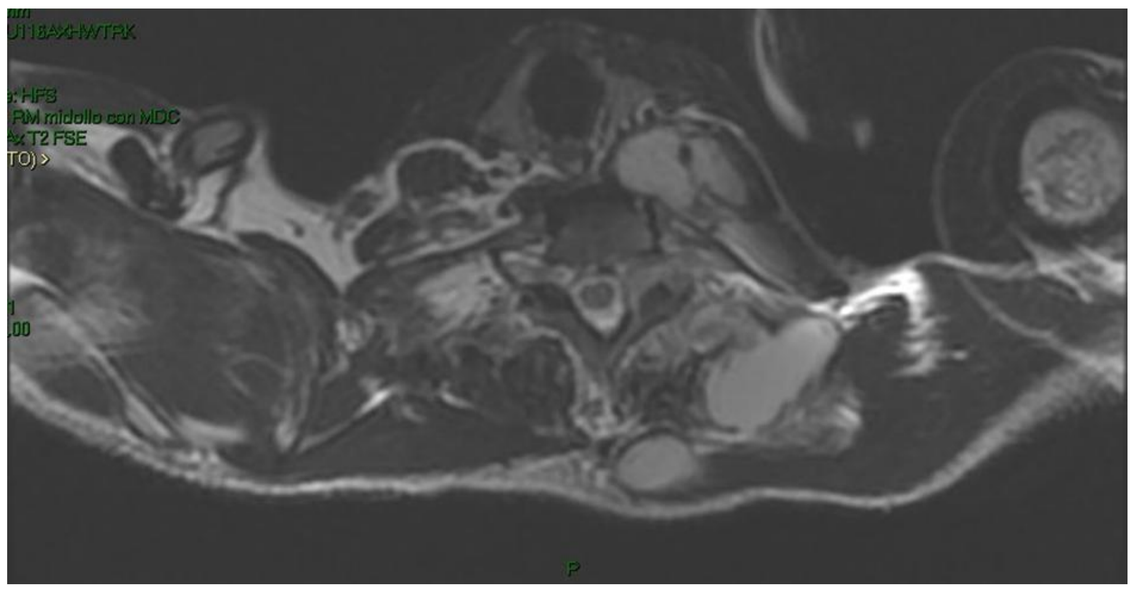
Introduction: Parsonage-Turner syndrome is an inflammatory pathology of nerve roots in upper limb characterized by aching pain involving usually a shoulder and irradiating to the neck or to the distal part of the arm. Several evidences suggest an autoimmune genesis. More than 50% of patients had an immune event before the attack, such as an infectious disease, vaccination, immunotherapy and pregnancy.
We describe a case in which Parsonage-Turner syndrome was secondary to a systemic tubercular infection.

Clinical History: The symptomatology of our patient began with pain in upper left limb, initially in the proximal part of the arm, so in the distal one. After 2 weeks, the pain reduced and gradually weakness appeared, following the same pattern of diffusion of pain. In more-up 20 days he was almost totally unable in acting any movement of the arm. EMG study confirmed our suspicion of brachial plexitis.
To exclude the presence of a systemic disease, total-body CT-scan and spine MR were performed. CT-scan detected multiple nodules in both lungs and a large multisepted lesion from the left lateral cervical region to the dorsal muscles until D5-D6 that was infiltrating subcutaneous soft tissues. Quantiferon test was positive. Bacilli of M. tuberculosis where then founded in the thoracic lesion. The patient started a therapy with rifampicin and ethambutol.
A six-month evaluation showed a total recovery of the strength of the affected muscles.



T-2 weighted MRI showing the colliquate necrosis of soft tissues surrounding the paraspinal spaces and the subaracnoid space from the left side.

Neurography: baseline			Neurography: six-month follow-up		
	Conduction velocity	Amplitude		Conduction velocity	Amplitude
Sensitive Neurography			**Sensitive Neurography**		
Sural right	45 m/s	7.8 µV	Sural right	63 m/s	2.8 µV
Sural left	40 m/s	9.7 µV	Sural left	54 m/s	5.9 µV
Radial left	56 m/s	17.9 µV	Radial left	63 m/s	17.4 µV
Median left	56 m/s	27.2 µV	Median left	63 m/s	17.3 µV
Ulnar left	52 m/s	10.8 µV	Ulnar left	65 m/s	9.6 µV
Motor Neurography			**Motor Neurography**		
Median left, elbow-wrist	56 m/s	3.9 µV	Median left, elbow-wrist	53 m/s	10.2 µV
Median left, wrist-tenar	3.9 m/s	6.8 µV	Median left, wrist-tenar	3 m/s	10.2 µV

EMG: baseline				EMG: six-month follow-up			
Muscles	Spontaneous activity	Recruitment	MUP	Muscles	Spontaneous activity	Recruitment	MUP
Left deltoid	++	Rapid firing	Normal	Left deltoid	+	Rapid firing	Neurogenic
Left infraspinatus	+++	Absent	Absent	Left infraspinatus	+	Rapid firing	Neurogenic
Left brachial biceps	++	Rapid firing	Normal	Left brachial biceps	-	Rapid firing	Neurogenic
Left extensor digitorum	+	Normal	Normal	Left extensor digitorum	-	Normal	Normal

Tables reporting the results of EMG/ENG exam on baseline and after the six-month follow-up

Discussion: The extension of the necrosis in MRI in the soft tissues throughtout the affected side suggested us at first an infiltrative action of the abscess on the plexus more than an autoimmune response to the infection.
However, the good recovery of the strength on a six-month follow up is contrary to this hypothesis, indicating a mayor role of an autoimmune mechanism in the pathogenesis.
We underline the importance of the clinical follow up to better define the causes and the prognosis in these cases.

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