Brachial Plexus Injuries

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History

Brachial plexus injuries (BPI) became a separate clinical entity among peripheral nerve lesions only in the second half of the nineteenth century. Flaubert* (1827) published a paper on several neurovascular injuries that occurred during the reduction of longstanding shoulder dislocations. In one patient who died, autopsy showed a rupture of the axillary artery and the spinal nerve C5, while roots C6 through T1 were avulsed from the spinal cord by the violent pull of eight «intelligent pupils» trying to reduce the dislocated humeral head. This description, which clinically included signs of a partial Brown-Séquard (1851) syndrome and a Horner’s sign, already described by Porfour du Petit in 1727, is fully consistent with the severe injuries, mostly caused by traffic accidents, seen today. Duchenne (1816) recognized a BPI in young children (obstetric palsy)* and Erb (1875) pinpointed the lesion site at the upper trunk.

Mitchell (1872) witnessed many gunshot wounds of the BP during the American Civil War. He knew all the writings of his contemporaries and described more cases than all the authors of his time together. He coined the term causalgia associated with peripheral nerve injuries. Klumpke (1885), another American who went to college in Lausanne (Switzerland), studied medicine in Paris against the opposition of many influential men at the Faculty, and became the first female resident in French medical history, described Horner’s sign in 1885 in association with lower trunk lesions of the BP. Many of the founders of neurology contributed to the knowledge of BPI thereafter, but no treatment was proposed by them other than «wait and see». After, the first successful attempts at nerve suture were performed simultaneously in 1863 by Nélaton (reported by Houel in 1864) and Laugier (1864), an achievement that raised much interest in the medical world of that time.

* The father of the French novelist Gustave Flaubert.
* Smellie had described in 1786 (Collection of cases and observations in midwifery. London. Vol. 2, p. 448) a case of obstetrical palsy of very short duration.
† She became later on Mrs. Dejerine and contributed greatly to the work of her illustrious husband.