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## GUNSHOT WOUND OF RIGHT WRIST

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***CASE I. Gunshot Wound of Right Wrist: Immediate Amputation; Choreal Affection of Muscles of Right Fore-arm (stump) and Shoulder.*** — Col. J. G. P., age

41, 139th Pennsylvania Volunteers, an officer of high character, in good health up to the date of wound, was shot, June 3d, 1864, through the right wrist with a slug. He became at once singularly excited, and felt as if he was crazed. Under the sudden influence of these sensations, he ran along the line of his regiment, only half conscious, until he fell senseless, having gone about fifty feet. Within a few minutes he revived, and was assisted to a hospital near by, where Dr. Chapin, surgeon of the regiment, amputated his fore-arm at the junction of the lower and middle third.

Col. P. never remained in bed, but continued in active service while the wound healed. This process was over about September 20th, 1864. At this date, someone remarked to him that his stump shook a good deal. This first attracted his attention. Within a month the quivering extended to all the muscles of the fore-arm, except the extensor group, and at the close of the second month it attacked the biceps, triceps, and deltoid. In November a seton [a kind of suture that creates a cinch] was carried through the skin of the stump. For a day or two the limb was much more quiet, but again became worse. Tincture of aconite was used locally without relief. A firm bandage applied to the whole limb, produced no good result, the movements getting constantly worse. At length a large part of the cicatrix of the stump was dissected out. For a few days he did better, and then relapsed as after the use of other remedies.

March 1, 1865.—The fore-arm is incessantly in motion, the muscles quivering in a singular manner, night and day, whether asleep or awake. Every twenty seconds, or oftener, the fore-arm is suddenly flexed, and more rarely the arm is thrown across the chest by the pectoral group, or upwards and outwards by the deltoid. These movements are beginning to involve the trunk and neck muscles of the right side. They are increased if attention be drawn to them, but they allow him to make voluntary movements with the aid of the muscles in question, and do not seem to interfere with or disturb this volitional control, as happens in the chorea [involuntary spasms] of children. The moment his will ceases to act, the spasms recur, but he does not feel any fatigue from this endless muscular action. All the muscles move readily under induced electric currents. The stump is not unusually tender, and there is no soreness in the nerve tracks when tested by heat or pressure.

Col. P.'s general health is suffering somewhat, but at no time except during the few days of leave, which he sought in order to consult me, has he failed to do full duty in the field. On one occasion only is he aware that the arm ceased to move. This occurred at the battle of Cedar Mountain, when, his regiment having been cut off, he was in grave danger of capture. He fought his way out, and saved his command. During the two or three hours of suspense, and while constantly under fire, his men observed that his arm ceased to move, and hung limber at his side.

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I felt strongly disposed to consider these motions as caused by some nerve lesion originally confined to the stump, and occasioning an excitation of the centres which gave rise reflectively to the spasms. To test this, I proposed to inject a paralyzing agent into the neighborhood of the main nerve trunks, and failing thus to check the conveyance of irritations to the centres, I should have wished to divide the chief nerves in the arm, removing half an inch. This, of course, would have paralyzed the muscles below. If, then, it were still found that the deltoid and pectoralis twitched, I should have concluded that the nerves were diseased above the point of section. Of this, some judgement could have been formed by examining with the microscope the section of nerve removed but the knife. After this there would have been no surgical remedy, excepting section of the brachial plexus in the neck, an operation which I presume, might offer some embarrassments.

As Colonel P. was obliged to return to duty at once, I contented myself with ordering him to have two setons through the stump, and to take ten grains of bromide of potassium thrice daily. April 17th, I heard from him. He had been again severely wounded in the side, March 25th, and lay insensible for some time although the limb all the while twitched as usual. He recovered readily, and at the date of April 17, wrote, "that the limb had ceased to jump as it did, but is never still. It quivers all the time."

I saw Colonel P. September 29, 1865. The arm at this time, rarely executed any violent or wide movements; but the fore-arm was much as his letter described it to have been in April. A greater gain was visible in the chest, neck and trunk, the muscles of which no longer twitched. His general health was better, and he had become robust and well. I desired him to renew the treatment as soon as he was at rest in any one place, and hoped to persuade him at a future period, to allow of some such operation as I have alluded to above.

**SOURCE**

*Austin Flint, ed. Contributions Relating to the Causation and Prevention of Disease (New York: Hurd and Houghton, 1867), 415-17.*