Multiple drugs

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Spontaneous muscle haematoma, lack of efficacy and off-label treatment : 2 case reports

In a case report, two men aged 48–60 years were described, who developed spontaneous muscle haematoma (SMH) during anticoagulation treatment with heparin. Additionally, the 48-year-old man also exhibited lack of efficacy to remdesivir and off-label treatment with dexamethasone and tocilizumab for coronavirus disease-2019 (COVID-19) [*not all dosages and routes stated*].

Case 1, the 48-year-old man, who developed SMH during anticoagulation treatment with heparin, and exhibited lack of efficacy with remdesivir and following an off-label treatment with dexamethasone and tocilizumab for COVID-19: The man, who had diabetes mellitus and asthma, was admitted to a hospital in Japan with fever, cough and malaise, which persisted for duration of one week. Based on the clinical presentation and laboratory findings, a diagnosis of COVID-19 was made. He started receiving treatment with remdesivir followed by an off-label treatment with dexamethasone 6 mg/day and tocilizumab, with a prone position for 16h daily. Despite treatment, his condition did not improve, and he developed respiratory failure. As a result, lack of efficacy with remdesivir, dexamethasone and tocilizumab was considered. On admission day 3, he was intubated and underwent tracheostomy on admission day 15. Due to elevated serum D-dimer level on admission day 6, he received anticoagulation treatment with IV heparin [unfractionated heparin]. The dose of heparin was increased to 32 000 U/day (18.6 U/kg/h) to keep his serum activated partial thromboplastin time (APTT) within 40–60 seconds. Bedside rehabilitation was also started simultaneously. On admission day 27, he presented with right lumbago, extension-based pain in the right lower leg and numbness in the right thigh. On admission day 29, he developed hypotension (81/59mm Hg) and remarkable anaemia. The contrast-enhanced CT of the pelvis and abdomen showed bilateral haematomas of the iliopsoas muscles and extravasation of contrast medium. Based on the clinical presentation and laboratory findings, a diagnosis of SMH secondary to the heparin therapy was made. The man's therapy with heparin was immediately stopped, and he underwent emergent transcatheter arterial embolisation of the bilateral lumbar arteries. After the procedure, the haematomas showed no further evidence of expansion. Additionally, hypotension and anaemia improved after transfusion and other supportive therapy. His anticoagulation therapy was not restarted; however, no apparent thrombosis was noted. Rehabilitation was restarted, and he was discharged home on admission day 60.

Case 2, the 60-year-old man, who developed SMH during anticoagulation treatment with heparin: The man, who had renal insufficiency, hypertension, diabetes mellitus and gastro-oesophageal reflux disease, developed fever and cough. After one week of fever and cough, his COVID-19 test was found to be positive. Therefore, he started receiving an off-label treatment with dexamethasone 6 mg/day. On next day, he was admitted to a hospital in Japan. Based on the clinical presentation and laboratory findings, a diagnosis of severe COVID-19 was made, and he was immediately intubated. Remdesivir and an off-label treatment with baricitinib was also added to the dexamethasone therapy for the COVID-19. He was maintained in a prone position. He received anticoagulation with IV heparin [unfractionated heparin] 14 000 U/day (8.1 U/kg/h) due to elevated D-dimer level and rehabilitation was started. On admission day 8, he was extubated and rehabilitation was intensified in a standing position. On admission day 10, he experienced extension-based pain in the left lower leg. The pain was not relieved by painkillers [*details not stated*]. On admission day 13, he developed hypotension (90/74mm Hg). However, anaemia progressed slightly. On admission day 13, the contrast-enhanced CT of the pelvis and abdomen showed bilateral iliopsoas haematomas. Based on the clinical presentation and laboratory findings, a diagnosis of SMH secondary to the heparin therapy was made. The man's therapy with heparin was stopped, and he underwent emergent transcatheter arterial embolisation of the bilateral iliolumbar arteries and left iliac circumflex artery. After the procedure, the haematomas showed no further evidence of expansion. On admission day 22, he was discharged home with oxygen therapy. His anticoagulation therapy was not restarted; however, no apparent thrombosis was noted.

Ito Y, et al. Spontaneous Muscle Hematoma in Japanese Patients with Severe COVID-19 Treated with Unfractionated Heparin: Two Case Reports. Internal Medicine : 24 Aug 2021. Available from: URL: http://doi.org/10.2169/internalmedicine.7422-21

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