

Surgical Approach to Hydrocarbon Injection in Upper Extremities

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Running Head: Surgical Approach to Hydrocarbon Injection in Upper Extremities

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Purpose: Hydrocarbon injection, which mostly occurs in the upper extremity, is commonly seen in domestic and industrial accidents, or attempted suicide. Surgical approach to chemical cellulites and other complications are controversial. This survey has been carried out on 21 patients admitted to general surgery unit of Loqman Hakim hospital in 2001-2005.

Methods: This study has been conducted by Shahid Beheshti University of Medical Sciences and approved by the ethics committee of this university. In this case series, we reviewed the registries of 21 patients with upper extremity hydrocarbon self-injection who had been admitted to general surgery unit of Loqman Hakim , a referral hospital located in southwest of Tehran-Iran, from 2001 to 2005.

Demographic parameters and the data related to the site of injection (wrist, forearm, cubital, and arm); injection routs, kind and amount of the injected substances; localized and systemic clinical findings; history of organic disorders and psychiatric

disorders including addiction any previous suicidal attempt; and medical or surgical management of these patients were collected.

Descriptive statistics were used to report our findings.

Results: Most of the patients were single men and between 20 - 29 years of age. The most common injected material was petroleum (in 8 patients). Anterior forearm was the most common injection site (in 16 patients). All of the patients had inflammation, swelling, and localized tenderness. Leukocytosis was present in 18 of 21 patients. All of them had normal chest roentgenogram. Compartment syndrome happened in 13 patients. Five of them had necrotizing fasciitis, and 2 of them had myonecrosis simultaneously. All of these patients underwent fasciotomy and debridement. Split thickness skin graft was needed for 10 patients after two weeks. There was no mortality or limb loss during the survey.

Conclusion: Prevention of the systemic complication, hospitalization, close monitoring and treatment of chemical cellulites are the main parts of the management of patients with hydrocarbon injection. Surgical intervention is recommended when compartment syndrome or other local complications occur.