The treatment of burned hands in the Colectiv Club mass casualty fire

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Objective:
The Colectiv Club mass casualty fire occurred on October 30th, 2015. It was an indoor fire caused by pyrotechnics, which killed 64 people and injured 186 – they were taken to 11 hospitals, including ours. We received 23 patients. It was the first time that our department, and the entire country, witnessed such a mass casualty. All the patients we received had thermal injuries to their hands and upper limbs.

Methods:
The patients we received in our facility were aged 19-46 and had burns of the heads, backs and upper limbs, the depth being mixed, mostly DPT but also FT burns. The mechanism of the burns was by flame, but also contact from the burned clothes as well as leaking material from the burning ceiling. The TBSA affected was between 2-90%.

Escharotomies were performed upon admission on the upper limbs of 15 patients with circumferential deep burns. 17 patients out of the 23 were treated by enzymatic debridement of their hands, in the first 12-84h since injury, while 2 were treated by surgical excision and grafting, starting 4 days since injury. 70% of the burns treated by enzymatic debridement were grafted and 100% of those treated by surgical excision. 3 patients needed distal phalanx amputations.

Results:
We achieved complete coverage of the burned hands at 10-25 days since injury. 5 patients out of the 23 died, 8 patients were transferred abroad. The remaining 10 patients were treated afterwards with compressive garments, silicone dressings and laser therapy, with very good results. They also followed a thorough hand rehabilitation program. 4 patients developed hypertrophic scars on their upper limbs and benefitted from steroid injections with no additional surgeries. 2 patients required surgeries for upper limbs scar revision, performed at 1 year after injury (scar excision, grafting, web space corrections).

Conclusions:
In the case of a mass casualty fire, immediate attention goes to increasing the survival rate of the patients and less to the management of essential functional areas, such as the hands. We believe both can be taken care of simultaneously, by enzymatic debridement, which is a fast, selective and efficient method of removing the burn eschar, with minimal effort, man power and blood loss, an asset in a mass casualty incident.