Improved mortality from penetrating neck and maxillofacial trauma using Foley catheter balloon tamponade in combat.

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BACKGROUND: The military medical community has promoted use of Foley catheter balloon tamponade in the initial management of vascular injury owing to neck or maxillofacial trauma. The aim of the study was to compare outcomes with Foley catheter tamponade with those obtained with traditional use of external pressure.

METHODS: This retrospective cohort study evaluated all cases of persistent bleeding caused by penetrating neck or maxillofacial trauma received at one forward aid station between December 2009 and October 2011. Cohorts included those who were treated with Foley catheter tamponade and those managed with external pressure. Which treatment option was applied depended solely on the availability of Foley catheters at the time. The effectiveness of each technique in controlling initial and delayed hemorrhage is described, and the impact on mortality is analyzed using the Student’s t test and Fisher’s exact test.

RESULTS: Seventy-seven subjects met the inclusion criteria with 42 subjects in the Foley group and 35 subjects in the external pressure group. A statistically significant difference was found between the groups regarding delayed failure, experienced by three patients (7%) in the Foley group and nine patients (26%) in the external pressure group (p < 0.05). The difference in mortality, 5% (two patients) in the Foley tamponade group and 23% (eight patients) in the external pressure group, was statistically significant (p < 0.05).

CONCLUSION: For penetrating neck and maxillofacial injuries in a combat environment, Foley catheter balloon tamponade significantly reduced mortality when compared with direct pressure techniques through its effect on preventing delayed bleeding.