İstanbul 2010 EUROPEAN CAPITAL OF CULTURE

16th MBC MEETING

TURKEY - ISTANBUL

March 31-April 3 , 2010

Mediterranean Council for Burns & Fire Disasters
WHO Collaborating Center
MBC
International Association for Humanitarian Medicine
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with special endorsement by

Turkish Society of Plastic Reconstructive
and
Aesthetic Surgery
&
Turkish Society of Burn Management
and
Prevention

YANIK DERNEĞİ 2009

EBA

P - 04

[Accepted:Poster Presentation] [Clinical]

Microscopic examination of fluid collected from negative pressure dressing

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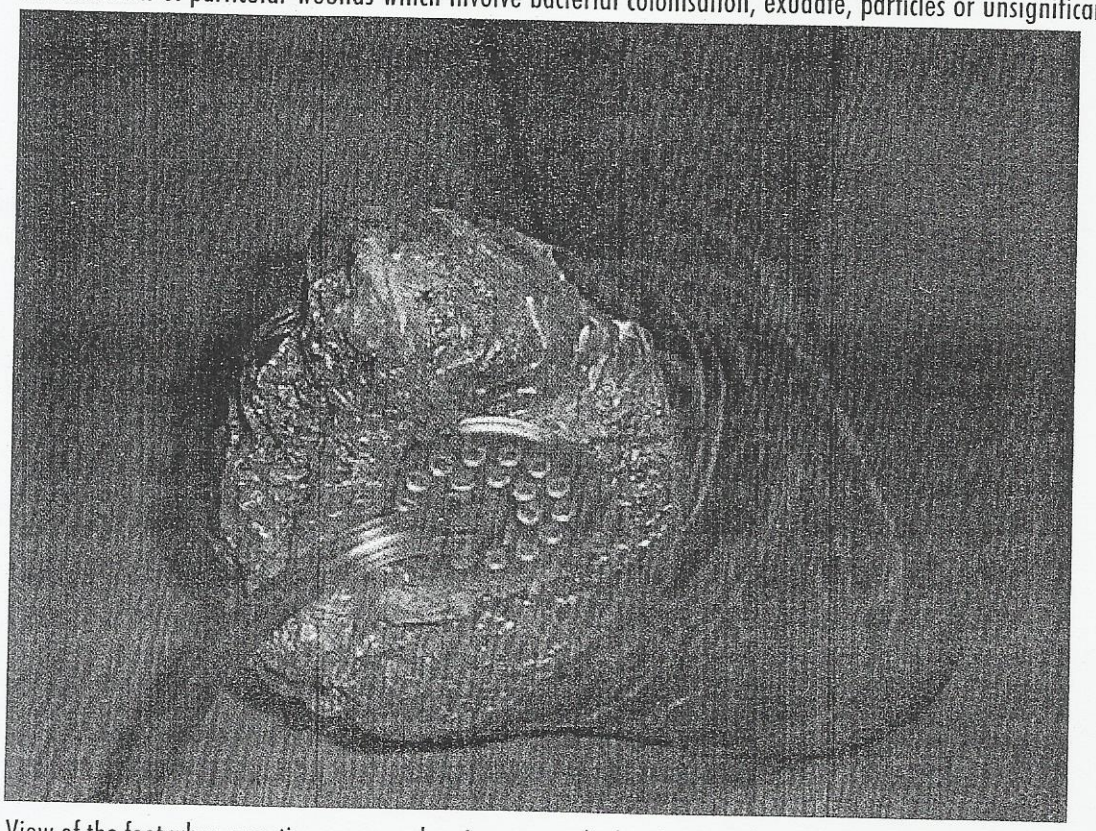
BACKGROUND: In using negative pressure dressing, fluid of wound is collected actively into a container, which may include exudate, cloths, foreing bodies, bacteria, necrosis, fibrocytes, epithelial cells, tissue remnants and debris. In this study, after the extensive surgical debritment of wounds, collected fluid in the container was examined histopatologically to reveal detailed information about cellular and liquid component of it.

METHODS: After the extensive surgical debridement of three wounds placed foot, head and arm, a negative pressure dressing was applied to the wounds which seemed to be viable-appearing and bleeding tissue without including significant necrosis. Patients had injured with electrical burn, traffic accident and scald burn. Before attaching the vacuum tube to the container, 200 mL of formaldehit was given into the container to preserve both fluid and tissue particles which would come from the wound. Later, the system was set to 125 mm Hg continuous pressure during 48 hours. After removing the dressing, fluid and particles collected in the container were examined histopatologically with hematoxylene-eozin dye.

RESULTS: On the examination under magnification of light microscope, there were exudate, fibrin, died epithelial cells and fibrocytes, cell remnants such as nucleus or cell membrane, suggesting that container was full of necrosis without including any living tissues or cells.

CONCLUSIONS: When dealing with the microscopic findings, negative pressure dressing may be considered as a tool for the debridement of particular wounds which involve bacterial colonisation, exudate, particles or unsignificant tissue necrosis.



View of the foot when negative pressure dressing was applied to the wound.