Lower extremity burns and Unna paste: can we decrease health care costs without compromising patient care

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
Unna paste boot, early mobilisation and early discharge versus using occlusive burn gauze dressing, bed rest and hospitalisation for patients with lower extremity burns requiring split-thickness skin grafting (STSG).

Type of intervention
Treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients with a burn isolated to a lower extremity requiring STSG.

Setting
Hospital. The economic study was carried out in Vancouver, Canada.

Dates to which data relate
Not reported.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was retrospectively undertaken on the same patient sample as that used for the effectiveness analysis.

Study sample
No power calculations were reported. A total of 26 patients was included in the study. There were 13 patients in the intervention group, and 13 matched patients in the control group.

Study design
The study was a non-randomised trial with historical (matched) controls carried out in a single centre. The duration of follow-up for the intervention group was every 2 to 4 weeks as required after operation. No loss to follow up was reported.
Analysis of effectiveness
It was not stated whether the analysis was based on intention to treat or on treatment completers only. The primary health outcomes used were graft "take" as an indicator of graft viability, and complications. The control group consisted of patients individually matched to those in the intervention group in terms of age and burn size (of foot or ankle).

Effectiveness results
The control group had an estimated graft "take" of 95%. This result was reported to be "equivalent to the results in the Unna paste group, in which only three patients had a partial graft loss, of less than 5%". No complications were reported.

Clinical conclusions
The authors stated that "Overall, the graft "take" and results were similar in both groups, patients in neither group requiring regrafting".

Measure of benefits used in the economic analysis
The benefit measure used was graft "take" as an indicator of graft viability.

Direct costs
Quantities were not fully reported. Cost items were not reported separately. Hospital stay was measured and formed the basis for the cost calculation which was accomplished by multiplying the average length of hospital stay of the study sample by the hospital fee for a bed per day. No other details were reported, apart from the 8-month period during which the intervention group was treated and the preceding 8-year period from which the control group was selected. The perspective adopted in the cost analysis was not explicitly reported. The date of the price data was not specified.

Indirect Costs
Not considered.

Currency
Canadian dollars (Can$).

Sensitivity analysis
Not performed.

Estimated benefits used in the economic analysis
The control group had an estimated graft "take" of 95%. This result was reported to be "equivalent to the results in the Unna paste (intervention) group, in which only three patients had a partial graft loss, of less than 5%".

Cost results
The mean cost of treatment was Can$1,260 per patient in the intervention group (with an average hospital stay of 1.4 days). The mean cost for the control group was estimated to be Can$11,610 per patient (with an average hospital stay of 12.9 days, p<0.001).

Synthesis of costs and benefits
A synthesis was not performed since the intervention was the weakly dominant strategy.
Authors' conclusions
The authors concluded that "This study compares favourably with previous studies and highlights one institution's experience with the standard and new Unna paste method of treatment for lower extremity burns. We believe this is a clinically and statistically safe, cost-effective alternative for lower extremity burns".

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator is clear.

Validity of estimate of measure of benefit
The internal validity of the estimate of measure of benefit used in the economic analysis may be weakened by the non-random allocation of study patients to intervention and control groups and by the historical nature of the control group.

Validity of estimate of costs
Resource quantities were not fully reported separately from the costs and insufficient details were provided of methods of cost estimation. Charges (fee per day of hospital bed) were used as a proxy for costs.

Other issues
Given the lack of randomisation, sensitivity analysis, and statistical analysis of the costs, the results need to be treated with some caution. The generalisability of the study results to other settings was not addressed.

Source of funding
None stated.

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