Objective

This retrospective study compares the cost and clinical benefit of the use of Integra Dermal Regeneration Template (IDRT) versus flap surgery for the reconstruction of full-thickness scalp defects involving the calvaria.

Methods

The authors identified two groups of patients: 17 patients treated with IDRT and 18 patients treated with flaps. All patients were admitted to their institution between 2004 and 2010 and presented a defect of the scalp following trauma or surgery for cancer, causing a loss of the soft tissues of the scalp with bone exposure without pericranium.

To calculate the cost of each treatment, three parameters were evaluated for each patient: cost of the surgical procedure (number of doctors and nurses involved, surgery duration, anesthesia, material used for surgery), hospitalization cost (hospitalization duration, dressings, drugs, topical agents), and outpatient cost (number of dressing changes, personnel cost, dressings type, anti-infective agents).

Results

No significant difference was found between the two groups related to gender, age, presence of diabetes, mean defect size, and number of surgical procedures. All patients healed with good quality and durable closure. The median total cost per patient was $12,613 (interquartile range (IQR) $9,444-$17,864) for the IDRT group and $8,233 (IQR $2,101-$27,722) for the flap group (p = 0.34).

A subgroup of patients (six patients in the IDRT group and five patients in the flap group) showing defects larger than 100 cm² were considered in a second analysis. Median total cost was $13,411 (IQR $12,129-$17,864) for the IDRT group and $26,362 (IQR $19,675-$30,556) for the flap group.

Conclusion

Both treatments led to a good healing of the lesions with formation of soft and resistant tissue. No significant difference was found between the two groups for days of hospitalization and costs. In cases of patients with defects larger than 100 cm² for whom major surgery is needed, the treatment with IDRT was less expensive than the treatment with free flaps or pedicle flaps.
### Discussion

1. IDRT had equivalent clinical outcomes as compared to free flaps and pedicle flaps.

2. Patients treated with IDRT were approximately half the cost of those treated with flaps, for scalp defects greater than 100cm². [Median total cost was $13,411 for the IDRT group and $26,362 for the flap group].

![Median costs for subset of patients with >100cm² defects](image)

3. The median surgery duration for patients treated with IDRT was 42.9% shorter than those treated with flaps [40.0 minutes for the IDRT group and 70.0 minutes for the flap group].

![Surgery duration (minutes) for entire cohort of patients](image)

### Indications

Integra template is indicated for the postexcisional treatment of life-threatening full-thickness or deep partial-thickness thermal injuries where sufficient autograft is not available at the time of excision or not desirable due to the physiological condition of the patient.

Integra template is also indicated for the repair of scar contractures when other therapies have failed or when donor sites for repair are not sufficient or desirable due to the physiological condition of the patient.

Integra template is also marketed as Integra® Omnigraft™ Dermal Regeneration Matrix. Omnigraft is indicated for the use in the treatment of partial and full-thickness neuropathic diabetic foot ulcers that are greater than six weeks in duration, with no capsule, tendon or bone exposed, when used in conjunction with standard diabetic care.

### Contraindications

Use of Integra template is contraindicated in patients with known hypersensitivity to bovine collagen or chondroitin materials.

Integra template should not be used on clinically diagnosed infected wounds.

All currency amounts published in Euros have been converted to US dollars at the current exchange rate, as of February 7, 2019.

### References


### For more information or to place an order, please contact:

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