**CASE REPORT**

**SURGICAL TREATMENT OF A BURNS CASE OF 40% TBSA**

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**SUMMARY.** We describe the case of a two-year-old boy with massive burns. After the period of shock and sepsis, very successful four-phase operative treatment was performed, with combined skin grafting homograft plus autograft. With regard to the four surgical interventions, in the first two we used the above combined method, while in the other two we used grafting only with skin autograft. We also used the donor region of the epicranial scalp.

**Introduction**

Burns in small children caused by hot water are very frequent in our country. Thermal burns in Kosovo account for 52% of cases, while children (0-15 yr) represent 47.5% of cases. This high percentage of thermal burns in children is a consequence of the hard economic situation that Kosovo is going through, in these years after the war.

After extensive burns, it is very important for the injured person to compensate for lost body liquids in an intensive care unit. After the period of shock and stabilization of the general condition, the patient is prepared for surgical intervention, early necrectomy (in the first ten days), and coverage of the debrided surfaces using a homograft or some other biological cover. In massive burns we also have the problem of finding donor regions for skin grafting, and the epicranial scalp (if not affected by burns) presents a good enough donor site for delivering the graft that can be used every two weeks.

**Clinical case and discussion**

A two-year-old child, P.K., was burned with hot water at home on 26 September 2003. After first aid provided in a local ambulance, the patient was transferred to an emergency centre in our university clinical intensive care unit - our country does not have a burns centre. On admission, we ascertained second- and third-degree burns, with a TBSA of 40%, with burns in the trunk, the two brachial regions, and both femoral regions. There were third-degree burns in the trunk and in the two femoral regions. Liquid compensation was given with Ringer’s lactate, according to the Parkland formula, plus an addition for small children of 1500 ml per square metre of body surface. After the shock phase and stabilization of the general condition, the patient was prepared for surgical intervention, necrectomy, and homografting.

On day 10 we performed the first surgical intervention - necrectomy of the thoraco-abdominal and back regions, which were covered with homografts (taken from a parent) and with some parts of an autograft taken from the left upper limb, i.e. a combination homo-autograft. On day 17 we performed the second operation - necrectomy of the two femoral regions, which were covered with a homograft (kept in a refrigerator) and with some parts of the autograft taken in both crural regions. On day 33 day the third operation was performed (after lysing of the homografts), together with removal of granulations in the thoraco-abdominal part and two-thirds of the back, and coverage of the defects only with skin autograft taken from the region of the scalp and the upper left extremity. On day 51 the fourth and last operation was performed, with removal of granulations in one-third of the back and femoral parts and coverage of defects only with an autograft taken from the upper right extremity and both crural regions (Figs. 1, 2).

The child left hospital on 1 December 2003 in a generally good condition and an acceptable autograft, with a recommendation for further care and treatment of any burns sequelae.

During his stay in our hospital the child was under the continuous control of our anaestesiologist, especially during his month-long stay in intensive care. Continuous monitoring of blood analyses and standard laboratory tests were performed. Antibiotics were given only in relation to the results of wound cultures and the antibiogram.

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RÉSUMÉ. Les Auteurs décrivent le cas d’un enfant âgé de deux ans atteint de brûlures massives. Après la période du choc et du sepsis, un traitement opératoire très efficace, en quatre phases, a été effectué avec une combinaison de greffe cutanée homogreffe avec autogreffe. Pour ce qui concerne les quatre opérations chirurgicales, dans la première et la deuxième ils ont employé la méthode combinée précitée, et dans la troisième et la quatrième ils ont utilisé la greffe seulement avec la greffe cutanée. Ils se sont servis en outre du site donneur du cuir chevelu épicrânien.

Applying a combined skin graft/homo- and autograft and covering the burned surfaces in the first two operations proved to be a successful way to treat extensive burns. This can be explained by the fact that a homograft contains and creates the factor of growth stimulation, which operates in a stimulatory fashion and speeds up the epithelialization process. It also promotes better acceptance of the autograft in debrided surfaces.

Conclusion

Thermal burns with hot water are very frequent in children, and especially in the age range of 1-3 years old, which can be explained by the fact that this is an age characterized by increased impulsivity and uncontrolled curiosity.

In extensive burns, after the shock phase and stabilization of the general condition, it is very important to apply early necrectomy (in the first ten days) and to cover the burned surface areas with a homograft or some other biological cover.

Applying a combined homo- and autograft technique offers very good results in extensive burns, as the homograft contains and creates stimulation factors for growth. These have a stimulatory effect and speed up the process of epithelialization and also lead to better acceptance of the autograft in the recipient region.

The use of scalp skin as a donor region for autografts in extensive burns offers an advantage in the coverage of burn surface areas because skin with head hair is well vascularized. This makes it possible for the surgeon to take skin autografts every two weeks.

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BIBLIOGRAPHY