International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

ASPECTS OF COMPLEX TREATMENT OF BURN DISEASE IN ELDERLY AND SENILE AGE

https://doi.org/10.5281/zenodo.8199331

Daminov Feruz Asadullaevich
Samarkand State Medical University, Samarkand, Uzbekistan

Summary

Purpose of the study. *To develop a system of active surgical tactics for burn patients over 60 years of age based on the intestation of methods of general and local treatment.*

Research materials. *In the burn department of the Samarkand branch of the RRCEMMP in the period 2002-2022. 419 elderly and senile patients were treated with burn disease.*

Research results. *Treatment of burn disease in the elderly is often aggravated by various complications, which contributes to high mortality.*

Conclusions. *Active surgical tactics (RCN, ADP) in patients with deep lesions up to 7-10% does not increase mortality compared to conservative tactics, but reduces the bed-day by 2 times and mortality from 23.6 to 14.3%.*

Key words

burn disease, elderly and senile age, early surgical necrectomy, autodermoplasty.

Relevance. Elderly and senile people are at risk for thermal injury. Age, burn area, interval between injury and admission to the burn center, comorbidities are the main factors that determine the severity of the injury and affect the prognosis and treatment tactics [2, 4, 6, 9].

According to a number of authors [1, 3, 4, 5], lethality in elderly and senile patients is two to three times higher than in burn victims of other ages and ranges from 23.4 to 62.5%. Particularly high mortality in people over 60 years old is observed during the period of shock, which develops in this group of patients even with limited burns up to 5-7% of the body surface [7, 8, 9].

Significant difficulties in the treatment of patients over 60 years of age are not only extensive, but also limited burns, which are accompanied by severe disorders of hemodynamic parameters and internal organs [3, 7]. Already in the next few hours after a burn injury, they develop a syndrome of mutual burdening, which consists in the fact that premorbid diseases adversely affect the course of the wound process, and the resulting burn, in turn, aggravates their severity [4, 8].

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

Concomitant diseases such as severe atherosclerosis, hypertension, diabetes, and others worsen the course of burn disease, and thermal injury often leads to a pronounced exacerbation of these diseases [2, 9].

The successful outcome of the treatment of patients over 60 years of age largely depends on the tactics of preoperative preparation, which should be aimed at increasing the body's immune defenses, correcting the general somatic status, as well as methods of surgical restoration of the skin [4, 7, 8, 9].

An analysis of the literature allows us to conclude that the use of numerous techniques in patients with severe burns in the elderly and senile age makes it possible only to prolong the resuscitation period and somewhat smooth out clinical and laboratory changes, but does not significantly affect mortality [2, 5, 7, 8].

Despite numerous publications on various aspects of burn disease, the issues of its clinic, diagnosis, conservative and surgical treatment in the elderly with a burdened premorbid background are unresolved, which was the reason for this study.

Purpose of the study. To develop a system of active surgical tactics for burn patients over 60 years of age based on the intestation of methods of general and local treatment.

Research materials. In the burn department of the Samarkand branch of the RRCEMMP in the period 2002-2022. 419 elderly and senile patients were treated with burn disease. The first group included 186 patients who were treated in the burn department of the Samarkand branch of the RSCEM from 2011 to 2012. The second (comparison group) group included 233 burn victims treated in the interregional burn center in Samarkand in 2002-2010.

The main method of restoring the skin in case of deep burns is surgical treatment with the use of skin plastics. For this purpose, we performed skin autoplasty in 419 victims aged 60 to 92 years with an area of deep burns from 2 to 25%. Of these, 186 patients (group I) with deep burns from 2 to 15% underwent necrotomy, 27 patients on the 1st day after injury, early necrectomy within 7 to 15 days (Table 1). Skin plastic surgery was performed immediately after removal of necrotic scabs on an area of up to 5% of the body surface in 116 (62.4%) patients and in 70 (37.6%) victims - from 5 to 15% of the body surface, a total of 201 plastics (from 500 to 850 cm2).

Table 1. Distribution of patients according to the nature of the surgical intervention (group I , n=186)

N	The nature of surgical interventions	Number

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

o.		of operas
1	Necrotomy	27
2	Early surgical necrectomy (RSN)	154
3	Amputation + exarticulation	12
4	Autoalloplasty	12
5	ADP	201
	TOTAL Number of operas for 1 patient Number of ADP per 1 patient	406 1:2.18 1:1.08

Good engraftment of skin flaps was observed in 156 (83.9%) patients, partial detachment of grafts occurred in 25 (13.4%) patients, and complete lysis of transplanted autoalloloscuts was observed in 5 patients, in whom early necrectomy was performed on an area of 10-15% surfaces of the body, in which, as a result of rejection of transplants, a deterioration in the general condition occurred. In 171 (91.9%) victims, operations were performed in one stage, and in 15 (8.1%) - in two stages (autoalloplasty - in 12 patients), which was caused by heavy bleeding from the wound surface and insufficiently complete removal of necrotic scabs . The second stage of the operation was performed 6-7 days after the first one with the removal of the remaining necrotic scabs. In this case, good engraftment was noted in 13 patients, and in 2 there was a partial detachment of the grafts.

When preparing burn wounds for autoplasty, 221 victims (group II) underwent staged sparing necrectomy, with the removal of dead tissues as they were rejected (Table 2).

Table 2 . Distribution of patients according to the nature of the surgical intervention (Group II , n=233)

No.	The nature of surgical interventions	Number of operas
1	Sparing necrectomy conservative preparation (CP)	221
2	Chemical necrectomy	22
3		
4	Autodermoplasty (ADP): - "vintage" - according to Mowlem-Jackson	 17 15
5	ADP	398
	TOTAL Number of operas for 1 patient Number of ADP per 1 patient	673 1:2.88 1:1.70

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

Along with sparing necrectomy, in order to more quickly reject necrotic tissues in 22 patients, non-political therapy was used using proteolytic enzymes and keratolytic drugs.

233 patients (group II) with extensive deep burns of 10-25% of the body surface underwent skin autoplasty for granulating wounds. In one stage - in 133, in two stages - in 45, and in three stages or more - in 55 patients (398 operations).

In order to increase the area of closed wounds in patients with extensive burns, we performed autoalloplasty of the skin in 32 patients, of which the "vintage" method was used in 17 patients, and in 15 cases skin plasty was used according to the Moulem-Jackson method (autoalloplasty). So-called mesh grafts were used in 102 patients to increase the possibilities of skin plastics with limited skin resources.

The conducted studies showed the expediency of restrained tactics used in patients of this age, which consisted in reducing the volume of surgical interventions, choosing sparing methods of anesthesia and the most rational methods of skin grafting. Since patients of elderly and senile age belong to a group with an increased operational risk, the first autoplasty, as a rule, did not exceed 4-5% of the body surface, since unsuccessful skin plasty on such an area did not significantly affect the general condition of the victims, and with a successful outcome, it appeared the possibility of performing the next stage of skin grafting in a large volume.

The presence of age-related changes and concomitant diseases in elderly and senile people had a decisive influence on the extent of simultaneous skin grafting.

The area of simultaneous taking of grafts ranged from 500 cm2 to 1100 cm2, while in 102 patients mesh grafts were used, which made it possible to cover a large surface of burn wounds with a smaller area of donor skin.

In our observations, out of 398 skin autoplasties for granulating wounds, complete engraftment of grafts was noted in 287 cases (72.1%), engraftment of 70% of transplanted flaps was observed in 92 cases (23.1%), and complete lysis of skin flaps occurred only in 19 cases (4.8%).

To take skin flaps, we used an electrodermat, which allows us to maintain the thickness of the cut graft with high accuracy, which is especially important in elderly and senile people whose skin is atrophied and thinned. The thickness of the skin flaps was 0.2-0.3 mm.

Along with the task of restoring the skin after burns, the problem of treating wounds in donor sites remains no less important. In the treatment of donor

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

wounds, we used various methods (dressings with antiseptics, antibiotics, aseptic dressings, algipor and silicone).

Research results. The treatment of burn disease in the elderly is often aggravated by various complications, which contributes to high mortality (Tables 3 and 4).

Table 3. The frequency of complications and mortality of burn disease and the age of patients (I group)

Complications	Age of patients			Total
	60-74 years old	75-89 years old	90 years and older	
Pneumonia, bronchopneumonia, pulmonary edema	36/3	70/7		106/10
Acute myocardial infarction, thrombophlebitis, PE, fat embolism	13/6	17/2	2/2	32/10
Encephalopathy, acute psychosis	3	15		18
Pyelonephritis	39	22		61
Bleeding and perforation of gastric and duodenal ulcers	4/1	9/2		13/3
bedsores	5	16		21
Sepsis	25/3	19/5		44/8
TOTAL	125/13	168/16	2/2	295/31

* - the denominator indicates the number of deaths.

Table 4. The frequency of complications and mortality of burn disease and the age of patients (group II)

Complications	Age of patients			Total
	60-74 years old	75-89 years old	90 years and older	
Pneumonia, bronchopneumonia, pulmonary edema	70/5	88/12	3/3	161/20
Acute myocardial infarction, thrombophlebitis, PE, fat embolism	10/8	23/8		33/16
Encephalopathy, acute psychosis	6	17		23
Pyelonephritis	60	15		75
Bleeding and perforation of gastric and duodenal ulcers	7/4	13/2		20/6
bedsores	14	15		29
Sepsis	39/20	20/10		59/30
TOTAL	206/37	191/32	3/3	400/72

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

* - the denominator indicates the number of deaths.

In various periods of burn disease, 31 (14.3%) of 217 patients of group I died, 72 (23.6%) of 305 of group II patients. The overall mortality was 19.7%. The main causes of death were: shock, pneumonia, a combination of sepsis and pneumonia, as well as complications from the cardiovascular system and thromboembolism.

Conclusions. Early necrectomy and necrolytic therapy, as methods of accelerated preparation of burn wounds for skin grafting in persons over 60 years old, can only be recommended for physically strong patients without pronounced dysfunction of internal organs, with a deep burn area of no more than 5-10% of the body surface. Early necrectomy in victims 60 years of age and older should be performed on a deep burn area of 10-15% in two stages: first, necrotic tissues are removed, and after 2-3 days, auto-allo- or auto-dermoplasty is performed.

When preparing wounds for skin plasty in elderly and senile patients, the most rational method should be considered staged sparing bloodless necrectomy, performed on dressings as necrotic tissues are rejected, which allow you to start surgical treatment on the 25-28th day from the moment of injury and maintain the body's defenses for longer time.

When restoring the skin in burnt elderly and senile patients, preference should be given to the use of split mesh grafts with a thickness of 0.2-0.3 mm, even in patients with limited burns, since they often have the preservation of life in the foreground, sometimes to the detriment of functional results. .

Active surgical tactics (RCN, ADP) in patients with deep lesions up to 7-10% does not increase mortality compared to conservative tactics, but reduces the bed-day by 2 times and mortality from 23.6 to 14.3%.

When determining the tactics of treatment and choosing the method of surgical intervention, one should take into account not the calendar but the biological age, and not the arithmetic sum of pre-existing diseases, but the phase of their development and severity. Active surgical tactics do not lead to exacerbation of the pre-existing pathology.

The overall mortality among elderly and senile victims with deep burns reaches 19.7%. Unlike young patients, 17.6% of deaths in elderly and senile patients are due to non-infectious causes.

International Journal of Education, Social Science & Humanities.
Finland Academic Research Science Publishers
ISSN: 2945-4492 (online) | (SJIF) = 7.502 Impact factor
Volume-11| Issue-7| 2023 Published: |22-07-2023|

REFERENCES:

1. Бойко В. В. и др. Возможности комбинированного лечения и профилактика осложнений при субфасциальных ожогах у лиц пожилого и старческого возраста //Харківська хірургічна школа. – 2015. – №. 1. – С. 89-95.
2. Карабаев Б., Фаязов А. Наш опыт лечения ожоговой болезни у лиц пожилого и старческого возраста //Журнал вестник врача. – 2011. – Т. 1. – №. 01. – С. 110-114.
3. Карабаев Х. и др. Желудочно-кишечные кровотечения при ожоговой болезни //Журнал вестник врача. – 2013. – Т. 1. – №. 01. – С. 70-74.
4. Рузибоев С. Оптимизация хирургического лечения глубоких ожогов у лиц пожилого и старческого возраста с отягощенным преморбидным фоном. – 2011.
5. Фаязов А. Д., Ажиниязов Р. С. Особенности течения ожоговой болезни у лиц пожилого и старческого возраста //Скорая медицинская помощь. – 2020. – Т. 21. – №. 3. – С. 54-57.
6. de Sire A. et al. Sarcopenic dysphagia, malnutrition, and oral frailty in elderly: a comprehensive review //Nutrients. – 2022. – Т. 14. – №. 5. – С. 982.
7. Johnson I. P. Age-related neurodegenerative disease research needs aging models //Frontiers in aging neuroscience. – 2015. – Т. 7. – С. 168.
8. Keller S. M., Burns C. M. The aging nurse: Can employers accommodate age-related changes? //AAOHN Journal. – 2010. – Т. 58. – №. 10. – С. 437-446.
9. Reich A., Ständer S., Szepietowski J. C. Pruritus in the elderly //Clinics in dermatology. – 2011. – Т. 29. – №. 1. – С. 15-23.