CASE REPORT

BURNS AND ULCERATIVE COLITIS

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SUMMARY. The co-existence of an extensive burn with a systemic disease negatively affects the outcome of the burn as well as the progress of the disease. A case report is presented regarding a 70-yr-old female patient with 45% total body surface area burns and ulcerative colitis under treatment. The outcome of the burns is described and it is pointed out that the healing process of the burns and the remission of the ulcerative colitis were related.

Introduction

The case is presented of a 70-yr-old female patient with ulcerative colitis under treatment who suffered a 45% total body surface area (TBSA) burn. The co-existence of two major diseases should be treated simultaneously. The outcome of the burns is closely related to the patient’s nutritional status. In cases of ulcerative colitis, patients are in a poor nutritional status. The stress due to the burn healing process can facilitate a relapse of ulcerative colitis.

Clinical presentation

A 70-yr-old woman suffered a 45% TBSA burn with partial- and full-thickness lesions due to thermal injury. The thermal injury was elicited when her nightgown caught fire upon contact with an electrical heating device. The burn injuries were located anteriorly on the thorax, abdomen, and thighs. Thirty-five per cent of the injuries were full-thickness lesions and 10% were partial-thickness. The burns occurred in a closed environment and could therefore potentially have caused inhalation lesions, but this was not the case since the lesions were produced only by the clothing that caught fire.

The patient was brought to our emergency department by ambulance and received by the plastic surgeons and general surgeons on duty. Following an estimation of the extent of the patient’s burns and her general status (blood gases, electrolyte analysis, complete blood count, thorax X-ray, and ECG), a central vein catheter was inserted and resuscitation initiated with the Parkland formula. Antibiotics (2nd generation cephalosporins) and appropriate painkillers (intravenous pethidine) were administered in the emergency room. On the basis of what the patient communicated, a more detailed history was taken. She was a chronic smoker and suffered from ulcerative colitis, which was under treatment (mesalazine 1 x 3 per day and 2 x 3 per day in case of exacerbation) with no further systemic disease.

After initial resuscitation the patient was admitted to the Burn Care Unit of the Department of Plastic and Reconstructive Surgery. A gastroenterology consultation was performed. The patient received a high-protein diet per os and total parenteral nutrition through a central vein catheter. The blood glucose level was regulated with an insulin pump, and stress ulcer prophylaxis was administered (Figs. 1,2).

Surgical interventions

The patient underwent four operations in order to treat the skin lesions. The decision to proceed slowly and gradually to resect the burn lesions was taken because the patient had another serious systemic disease, ulcerative colitis. The harmonic balance of these two diseases is of major importance. The operations took place on days 12, 29, 57, and 77. The initial procedure was debridement and split-thickness skin grafting, on day 12. Then, on day 29, lyophilized porcine allografts were used to promote and accelerate granulation, along with debridement and grafting, which followed on day 57 and finally on day 77. Each time a small area of approximately 10% was grafted, pro-
ducing a maximum of 20% open wound area and maintaining equilibrium during the healing period.

**Ulcerative colitis**

The patient received 1 x 3 mesalazine enemas at times of remission of the disease and 2 x 3 enemas at times of exacerbation. On admittance to hospital a 2 x 3 regime was introduced in order to prevent a relapse. Following stabilization the patient had a relapse on day 5. She produced several bloody stools and the haematocrit level dropped. The haematocrit level was kept at 35% by means of several blood transfusions in order to facilitate the healing process. Emergency direct rectoscopy, followed by colonoscopy, was performed by the gastroenterologists, and a new therapeutic regime was initiated (Table I).

On day 70 a second relapse occurred, and this was again confronted by the gastroenterologists. During these operations, the cortisone dose was cut down pre-operatively and was re-instated post-operatively (Figs. 3,4).²

**Nutrition**

Owing to the presence of ulcerative colitis the patient presented with a poor nutritional status on day 1. Total parenteral nutrition was immediately administered with albumin supplementation through a central vein catheter, along with a high protein diet. On day 60 a feeding tube was inserted and enteral nutrition with semi-elemental and elemental solutions was added to the diet. The blood glucose level was controlled with an insulin pump (Table II).

**Albumin levels**

*Table III* shows the patient’s nutritional status. She was admitted with a poor nutritional status. Thanks to correct diet and control of protein consumption by carefully choice of the timing of the surgical procedures, the nutritional status improved within one month of hospitalization.
The drop in the amount of albumin levels observed on day 60 can be explained by the hypermetabolic phase of the burns and by the fact that the patient, because of her depressed state, refused any oral intake, while the rise in globulins was due to the reaction to the allografts used to assist granulation.

**Conclusions**

Complications can be prevented by confronting burns and ulcerative colitis simultaneously. The early involvement of the gastroenterologists is not just advisable - it is mandatory.

Control of ulcerative colitis relapses allows the patient to maintain a correct nutritional status and a haematocrit level of approximately 35%, which is necessary for the burn healing process.

It is advisable to be conservative with surgical procedures in order to let the healing mechanism revive between operations. It should be noted that there was no relation between relapses of ulcerative colitis and the surgical procedures performed.

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**Table II - Dietary instructions**

<table>
<thead>
<tr>
<th>Nutritional Instruction</th>
<th>Day 1-59</th>
<th>Day 60-90</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total parenteral nutrition and high-protein diet</td>
<td>per os</td>
<td>enteral feeding by means of feeding tube with semi-elemental solutions and Vivonex supplement three times per day</td>
</tr>
<tr>
<td>High-protein diet</td>
<td>per os</td>
<td>semi-elemental solutions and semi-elemental solutions with Vivonex supplement three times per day</td>
</tr>
<tr>
<td>Glucose level regulated with insulin pump</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table III - Patient’s nutritional status**

<table>
<thead>
<tr>
<th>Day 1</th>
<th>Day 30</th>
<th>Day 60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Plasma Proteins</td>
<td>Albumin 1.5</td>
<td>Albumin 4.0</td>
</tr>
<tr>
<td>Globulins 2.3</td>
<td>Globulins 2.6</td>
<td></td>
</tr>
<tr>
<td>Total Plasma Proteins</td>
<td>Albumin 2.7</td>
<td>Albumin 4.1</td>
</tr>
<tr>
<td>Globulins</td>
<td>Globulins</td>
<td></td>
</tr>
</tbody>
</table>

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**RÉSUMÉ.** La présence simultanée d’une brûlure étendue et d’une maladie systémique exerce un effet négatif soit sur les résultats finals soit sur le progrès de la maladie. Les Auteurs présentent le cas d’une patiente âgée de 70 ans atteinte de brûlures dans 45% de la surface corporelle totale et de colite ulcéратive sous traitement. Après avoir décrit le résultat final des brûlures, les Auteurs soulignent que le procès de guérison des brûlures et la rémission de la colite ulcéратive étaient liés.

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**BIBLIOGRAPHY**


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