Surgical approach to giant rhinophyma

Хирургично лечение на гигантска ринофима

Nikolay Sapundzhiev

*Department of Neurosurgery, Otorhinolaryngology and Ophthalmology,
Medical university "Prof. Dr. P. Stoyanov" – Varna*

Николай Сапунджиев

*Катедра по неврохирургия, оториноларингология и офталмология,
Медицински университет "Проф. д-р П. Стоянов" – Варна*

Abstract

Introduction: Giant rhinophyma is a rare condition, representing end-stage rosacea – phymatous rosacea of the nose. This extreme growth of the nasal skin is an embarrassing cosmetic condition.

Case report: We present a clinical case of a 76-year old male patient with excessive growth of the nose over years. Apart of the cosmetic condition the patient complained of impaired nasal breathing, which needed stenting of the nostrils and impairment when eating. His facial skin showed typical signs of rosacea. The therapeutic approach chosen included surgical resection with electrocautery and disposable razor blades. The histologic examination of the specimen confirmed the clinical diagnosis. The result achieved was very good both functionally and cosmetically.

Conclusion: It is quite debatable why a person with initial rosacea and later progressive rhinophyma seeks no medical advice/treatment or gets no correct medical treatment and follow-up and ends with a debilitating rhinophyma.

Резюме

Въведение: Гигантската ринофима е рядко болестно състояние. Това е краен етап в еволюцията на розацеята – фиматозна розацея на носа. Екстремното разрастване на кожата на носа представлява сериозен естетически деформитет.

Клиничен случай: Представяме клиничен случай на 76-годишен пациент с постепенно нарастване на носа в хода на години до ексцесивни размери. Освен самия козметичен дефект, оплакванията на пациента включват затруднено до невъзможност носно дишане, за което той е бил принуден да използва своеобразни стентове и смущения дори на храненето. По лицето му се установяват типични за розацея кожни промени. Терапевтичният подход е хирургически – резекция чрез електроскалпел и послойно изтъняване със самобръсначки. Хистологичното изследване потвърждава клиничната диагноза. Пациентът оценява късния постоперативен резултат като много добър, както във функционално, така и в естетично отношение.

Заклучение: Открит остава въпросът защо пациент, при който първоначално се развива розацея, която с времето еволюира до ринофима със значителни размери, не търси лекарска помощ или не получава адекватна такава, за да се достигне обезобразяваща гигантска ринофима.

Introduction

Rhinophyma (from Greek “rhino-” nose and “phyma” swelling, mass, tuberosity) is an inflammatory hypertrophy of the sebaceous glands together with hyperplasia of the adjacent connective tissue of the nose [6, 12]. Rhinophyma attains predominantly male subjects in the fifth and the sixth decades and is seldom found in female patients [10]. The aetiology remains obscure with putative factors including alcohol, diet and vitamin deficiency or as a consequence of prolonged steroid therapy [10]. In the early stages rhinophyma is characterized by erythema and pimples. With its progression it turns into an embarrassing cosmetic condition. Advanced stages are considered as a benign tumoral mass of the external nose. There are few reports, describing such cases. The extreme growth of the nasal skin can lead to collapse of the tip of the nose with impairment of the nasal breathing. Further progression may even impair the feeding [9, 12]. Impaired oral feeding but no nasal obstruction is also possible [5].

Case report

A 76-year old patient was referred to the Department of Otorhinolaryngology & HNS for excessive growth of the nose, which developed gradually over the last 7 years. During this time only occasional dermatological treatment was attempted, but in an unsystematic way. With the progression of the phyma the patient experienced impaired nasal breathing, initially in supine position at sleep and later – even when standing. To overcome this impairment he started wearing self-made cylindrical dilators in both nostrils. This continued for the last 2 years. Recently the patient experienced impairment when eating – the hanging tip of the nose

interfered with the cutlery, especially the spoon when taking liquid foods. Being visually impaired the patient was not too much concerned about the appearance of his face, but rather by the breathing impairment.

Upon presentation the physical examination showed extreme growth of the nose involving all of it except the upper quarter. The growth was little lobulated only on the left side. It was firm to the touch and visually appeared to be highly vascular. The alae of the nose were particularly thickened. Other regions of the skin of the face and the neck showed typical signs of rosacea: permanent redness with red papules, some of them filled with some pus – papulopustular rosacea. These changes involved mainly the perioral region, the mental crease and the chin, and the forehead – predominantly between the eyebrows. Purulent and keratinous material was easily expressed. The diagnosis rhinophyma was based on the typical appearance and confirmed by a dermatologist.

The primary therapeutic approach was surgery. In general anesthesia cold steel resection of the tumoral mass was performed as described by Staindl and Roberts [9, 11]. The nose was injected with local anaesthetic containing adrenaline to reduce bleeding. The bulky tip of the rhinophyma was resected with electrocautery. The cut was far above the deep cutaneous layers. The rest of the growth was then shaved off using disposable razor blades. Care was taken not to shave beyond the depth of the sebaceous glands and to avoid any exposure of cartilage. At the end of the procedure bleeding was thoroughly controlled with bipolar electrocautery. No fibrin sealant was used. A soaked with antibiotic solution dressing was applied in a compressive manner to encourage haemostasis and provide antibacterial protection. The dressing was changed every other day, leaving a dry clean wound a week later. The histologic examination of the specimen resected confirmed the clinical diagnosis of rhinophyma and found no signs of malignancy. The patient and his relatives found the late result both functionally and cosmetically very good.

Discussion

The initial stages of rhinophyma may respond to antibiotic treatment, but more advanced cases must be treated with surgery. There is no uniform surgical approach to major rhinophyma. In general two subtypes of surgical resection have been reported: partial thickness excision or full-thickness excision. In the first type re-epithelialization develops from the preserved deep pilosebaceous follicles. In the second subtype all dermal layers are removed and skin grafting is needed to cover the wound.

Concerning the technical means for performing the resection there are reports on different treatment modalities, which include cold steel (scalpel, razor blades, scissors) [3, 4, 5, 10], electrocautery [7], dermabrader, ultrasonic scalpel [8] and CO₂ laser [2, 4]. The early stage of rhinophyma may be successfully treated by dermabrasion [1]. Also different laser systems have been advocated for the treatment of early rhinophyma – CO₂ lasers [2] and KTP lasers [1].

Comparing cold steel and laser techniques for resection of moderate or major rhinophyma Har-El et al. reported no differences in length of the procedure, preservation of normal tissue, the need for skin grafting, intraoperative pain and discomfort, intraoperative bleeding, postoperative pain and discomfort, postoperative bleeding, complications, and end results between both techniques. However the use of lasers lead to less intraoperative and postoperative bleeding, easier and smoother procedure, and more comfortable postoperative care with laser surgery [4].

Some authors find the role of galvanocautery and electrocoagulation disputable. They warn of the risk of necrosis of the underlying bone, cartilage and mucous membranes, but also point out the good haemostatic properties of these tools [3]. An approach to counteract the necrosis of the deeper layers is to leave additional amount of tissue, but this complicates the intraoperative judgment of the extent of the resection [7].

There are only occasional reports on the use of ultrasonic scalpel in rhinophyma presenting good results but only on very limited number of patients and in an uncontrolled setting [8].

Figure 1. Preoperative and late (40 days) postoperative views of the patient. On the left-hand side picture the self-made cylindrical dilators can be seen, which the patient used to enable nasal breathing.

Disputable is the use of local pediculated or free skin flaps. Such measures have been almost entirely

discarded. The use of the graft is now confined only to cases of rhinophyma with carcinomatous degeneration, or in instances where x-ray, radium, or cautery have been employed inadvertently, with a resultant destruction of too much of the nasal tissues [3].

Conclusion

Giant rhinophyma is a rare finding. In advanced stages it represents not only a cosmetic condition, but also may be an obstacle to respiration and even feeding. It is quite debatable why a person with initial rosacea and later progressive rhinophyma seeks no medical advice/treatment or gets no correct medical

treatment and follow-up and ends with such debilitating condition. Treatment options for rosacea and early to moderate rhinophyma include prolonged medication with antibiotics and azelaic acid. However more advanced stages should be subjected to surgical treatment. Partial or full-thickness skin excision could be performed with variety of modalities including mechanical dermabrasion, cold steel, electrocautery, ultrasonic scalpel and lasers. The presented case of giant rhinophyma was treated by combination of cold steel resection and electrocautery. The literature review performed advocates this treatment option for monstrous rhinophyma.

Bibliography

1. Bassichis BA, Swamy R, Dayan SH. Use of KTP laser in the treatment of rosacea and solar lentigines. *Facial Plast Surg* 2004; 20: 77-83
2. Cebrián Carretero JL, Demaría Martínez G, del Castillo Pardo de Vera JL. Tratamiento del rinofima con láser de CO₂. Presentación de un caso. *Rev Esp Cir Oral y Maxilofac* 2006; 28: 109-113
3. Crabtree WC. Rhinophyma. *Cal West Med* 1936; 45: 485-487
4. Har-El G, Shapshay S M, Bohigian R K, Krespi Y P, Lucente FE. The treatment of rhinophyma. 'Cold' vs laser techniques. *Arch Otolaryngol Head Neck Surg* 1993; 119: 628-631
5. Keen WW. Rhinophyma: Report of a Case, with Operation for its Relief. *Ann Surg* 1904; 39: 665-668
6. Lehmann PM. Rosacea. Epidemiology, pathogenesis, clinical presentation and treatment. *Dtsch Arztebl* 2007; 104: 1741-1746
7. Linehan JW, Goode RL, Fajardo LF. Surgery vs electrosurgery for rhinophyma. *Arch Otolaryngol* 1970; 91: 444-8
8. Metternich FU, Wenzel S, Sagowski C, Jäkel K, Koch U. Die operative Therapie des Rhinophyms mit dem ultraschallaktivierten Skalpell (Ultracision Harmonic Scalpel). *Laryngorhinootologie* 2003; 82: 132-137
9. Roberts JO, Ward CM. Rhinophyma. *J R Soc Med* 1985; 78: 678-81
10. Ross DA, Davies MP. Squamous cell carcinoma arising in rhinophyma. *J R Soc Med* 1991; 85: 236-237
11. Staindl O. Zur Chirurgie des Rhinophyms. *Deutsche HNO-Medithek* 2002; 3
12. Werner JA, Lippert BM. Tumoren der äusseren Nase und des Gesichtes. in *HNO-Heilkunde. Farbatlas zur Befunderhebung, Differenzialdiagnostik und Therapie*. Schattauer, 2003

Corresponding author:

Dr N. Sapundzhiev MD.

Department of Neurosurgery, Otorhinolaryngology and Ophthalmology
Medical university "Prof. Dr. P. Stoyanov" – Varna
55 Marin Drinov str.
Varna 9002, Bulgaria
e-mail: n.sapundzhiev@gmail.com

Адрес за кореспонденция:

д-р Н. Сапунджиев д.м.

Катедра по неврохирургия, оториноларингология и офталмология,
Медицински университет "Проф. д-р П. Стоянов" – Варна
Ул. "Марин Дринов" 55
Варна 9002, България
e-mail: n.sapundzhiev@gmail.com