Rhinophyma: Dispelling the Myths

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Rhinophyma is a relatively common condition in the west of Scotland. The Canniesburn Plastic Surgery Unit receives 12 to 13 new patients per year for surgical treatment. The reported incidence of simultaneous carcinoma in the setting of rhinophyma is on the order of 15 to 30 percent. There are conflicting reports about the association between alcohol and rhinophyma in the literature, and these are supported with little or no statistical evidence. Retrospective epidemiologic data on 45 cases of rhinophyma are presented. An audit of case notes was performed to examine histology and also alcohol consumption in these cases. The authors found no coincidental malignancies at the time of surgery, which is contrary to many previous publications. The alcohol consumption of the rhinophyma cases was compared with that of a control group that consisted of 48 men presenting for blepharoplasty. The series did not demonstrate a positive association between alcohol and rhinophyma when compared with a similar cohort of patients presenting for blepharoplasty surgery ($p > 0.20$) or with statistics available from the Scottish Health Survey. (Plast. Reconstr. Surg. 114: 351, 2004.)

Rhinophyma is thought to represent the most severe expression of acne rosacea. There are significant variations in incidence according to sex and race. Although rosacea is much more common in women, rhinophyma occurs almost exclusively in men. The disease is rare in Japan and in African Americans. However, it is a relatively common condition in the west of Scotland, with approximately 12 to 13 new cases per year presenting at the authors’ unit for surgery.

There are many reports of coincidental malignancy discovered at the time of surgery. This has potential implications in the surgical treatment of rhinophyma. There are also conflicting reports about the association between alcohol and rhinophyma, and these are supported with little or no statistical evidence. The alleged association with alcohol is undoubtedly the cause of much of the stigma of rhinophyma. Despite inconclusive and conflicting evidence, rhinophyma is commonly believed to be premalignant and often linked to alcoholism. This study was undertaken to find the truth behind these convictions.

Patients and Methods

Retrospective data from the case records were collected for all cases of rhinophyma seen in this unit between June of 1996 and May of 2001. During these 5 years, 62 new rhinophyma patients presented to this unit, of whom 60 underwent operation for rhinophyma by different surgeons in the unit. All of the patients were men. The average age was 60.9 years (range, 33 to 84 years). Forty-eight of these 60 patients underwent tangential excision with either scalpel or dermatome. A further 11 patients had carbon dioxide laser resurfacing, either alone or in combination with excision by scalpel or dermatome. One patient had excision and a full-thickness skin graft. A total of five patients later had the procedure repeated.

Advantage was taken of the fact that standard medical history sheets in our department carry a separate coded column for recording alcohol consumption. This had been recorded in 92 percent of cases (57 of 62). Histology of the resected tissue was available in 25 percent of the cases (15 of 60). A similar audit was performed on men undergoing blepharoplasty in the same unit as a control population for alcohol consumption. This had been recorded in 92 percent of cases (57 of 62). Histology of the resected tissue was available in 25 percent of the cases (15 of 60).

A similar audit was performed on men undergoing blepharoplasty in the same unit as a control population for alcohol consumption. Men undergoing blepharoplasty were chosen to provide a well-matched control cohort for the rhinophyma study cohort with respect to age, sex, race, and regional variation. All blepharoplasties between 1991 and 2001 were...
targeted to provide a total of 65 cases. In 48 of 65 cases, specific alcohol consumption could be assigned. The average age for these 48 cases was 51.5 years.

The Scottish Health Survey is a series of surveys commissioned every 3 years by the Scottish Executive Health Department. The surveys are in the form of a telephone interview followed by a personal visit by a nurse to the homes of the respondents. The visit involves recording of blood pressure, lung function, and waist and hip measurements, and the donation of a blood sample for analysis. Interviews were obtained in 1995 from 7932 Scots aged 16 to 64 years, constituting a response rate of 81 percent of eligible adults. The final data have been weighted according to the true relative sizes of the groups analyzed.

RESULTS

Histology

Specimens for histologic examination had been taken in 15 cases, all of which were benign. One patient had a basal cell carcinoma excised from the nose some years before his treatment for rhinophyma, but no patient presented with a skin malignancy of the nose after treatment. Interestingly, *Demodex* mites were mentioned in only two histology reports.

Alcohol Consumption and Rhinophyma

Alcohol consumption is generally recorded in “units.” In the United Kingdom, one unit is considered to be 8 g of alcohol (this value varies widely from country to country). One glass of wine, one standard U.K. measure of spirits, or half a pint of average-strength beer is generally estimated to be “one unit.” Alcohol consumption had been recorded preoperatively in 57 of 62 cases, although unfortunately not always in units. Twelve cases were recorded as “social” or “occasional” drinkers and could not have a specific alcohol consumption assigned to them. Of the remaining 45 cases, 11 were nondrinkers (24 percent), nine consumed one to seven units of alcohol per week (20 percent), nine consumed eight to 14 units of alcohol per week (20 percent), six consumed 15 to 21 units of alcohol per week (13 percent), and 10 consumed more than 21 units per week (22 percent) (Fig. 1).

To find a control sample undergoing surgery that would have no theoretical association with alcohol consumption, men undergoing blepharoplasty were also examined for alcohol consumption. Fifteen patients were nondrinkers (31 percent), 12 consumed one to seven units of alcohol per week (25 percent), eight consumed eight to 14 units of alcohol per week (17 percent), nine consumed 15 to 21 units of alcohol per week (19 percent), and four consumed more than 21 units per week (8 percent) (Fig. 1).

The results for alcohol consumption from the rhinophyma group and from the blepharoplasty group were compared using the Mann-Whitney *U* test. The null hypothesis stated that there was no significant difference in the alcohol consumption for the two groups. The null hypothesis could not be rejected with *p* = 0.20. It is concluded therefore that there is no significant difference in alcohol consumption between men undergoing rhinophyma surgery and men undergoing blepharoplasty surgery.

DISCUSSION

Severe rhinophyma is a disfiguring and socially stigmatizing condition, characterized by lay terms such as “whisky” or “rum” nose and “grog blossom.” The public tends not to discriminate between the facial telangiectasia of alcoholism and the facial flushing associated with rhinophyma or rosacea.

Many of the retrospective data collected were consistent with previous findings. The average age (60.9 years) and the age range (33 to 84 years) of patients in our series were similar to those described by Fisher (average, 55.7 years) and Matton et al. range, 38 to 74 years). Five patients (8 percent) had more than one procedure to correct the rhinophyma. Fisher reports five of 33 (15 percent) patients requiring more than one procedure.

All our patients were male. This is reflected in several studies. Fisher’s 33 patients were exclusively male. Acker and Helwig report two female patients in a series of 47. Matton et al. describe four female patients of a series of 57 presenting for surgery, and comment on the relative paucity of female cases in the literature.

There is evidence of considerable racial variation. It may well be that rhinophyma is much more prevalent in Scotland. Matton et al. mention that although hereditary background could not be determined for many of the cases, the remainder showed a predilection of “Scotch-Irish” descent. It is unclear
whether they were confusing heritage with whisky, as our population is obviously Scots or Scottish but definitely not Scotch.

The histologic data do not support previous reports that the incidence of simultaneous carcinoma in the setting of rhinophyma is on the order of 15 to 30 percent.\textsuperscript{2,7,8} None of the 15 specimens submitted for histologic analysis showed malignant transformation. One patient who did have a basal cell carcinoma treated before his rhinophyma surgery did not show any evidence of recurrence when rhinophyma tissue was submitted for examination. In addition, none of the 60 cases operated on in the past 5 years have presented back with any skin malignancy, although it is conceivable that there may be patients with skin malignancy that have for some reason not presented.

The percentage risk of a Scottish man developing a basal cell carcinoma by the age of 64 is 2.2 percent,\textsuperscript{9} and this figure is recognized to be underestimated. The nose is by far the most common site in which to acquire a basal cell carcinoma. Hayes\textsuperscript{10} described 130 basal cell carcinomas of the nose of a series of 506 (26 percent). We would have expected therefore to see approximately 0.6 new basal cell carcinomas of the nose per 100 men by the age of 64 in Glasgow by chance alone.

There is a plethora of very small series in the literature reporting malignancy as a coincidental finding after treatment for rhinophyma.\textsuperscript{11} The largest series of rhinophyma patients, by Matton et al.,\textsuperscript{4} included only 14 cases of rhinophyma that actually had surgery performed. The histologic findings for these patients are not described. In Fisher’s series of 33 patients, only one was found to have a coincidental basal cell carcinoma at the time of surgery. This patient had already been diagnosed with two previous skin malignancies of the face. We feel that because the nose is a common site for both rhinophyma and basal cell carcinoma, many small series may reflect a significant bias.
in reporting. All 62 of our patients were referred solely for the treatment of rhinophyma. Although it is not possible to exclude rhinophyma as a risk factor for cutaneous malignancy, from our small series of 15 patients in whom histology was benign, the risk must be much lower than previously thought.

Reports in the literature associating rhinophyma with alcohol consumption are conflicting and do not seem to be backed up by clear evidence. Twenty-two percent of patients in this study exceeded the maximum recommended weekly alcohol intake of 21 units. The mean alcohol consumption per patient was 13 units. This might suggest a positive correlation between excessive alcohol consumption and rhinophyma. In Scotland, 29 percent of the 55- to 64-year-old male age group exceed 21 units of alcohol per week (Fig. 2). Thus, when compared with the national figures of the general population, alcohol consumption is possibly less in the rhinophyma patients. The difference in alcohol consumption between the rhinophyma patients and the Scottish Health Survey may reflect a significant reporting bias. However, there was no significant difference in alcohol consumption between the rhinophyma sample and the control sample undergoing blepharoplasty surgery, which should have no reporting bias. Rhinophyma was also found in our series in 11 men who did not drink any alcohol. Alcohol may potentiate preexisting disease. We can say, however, that alcohol consumption in rhinophyma patients is certainly no greater than in our general population.

Our study provides sufficient evidence to dispel the myth of alcohol consumption and rhinophyma. The risk of cutaneous malignancy in rhinophyma may also be much lower than previously suggested.

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