

Abdominal wall skin lesions in adult morbid obese women

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ABSTRACT

Objective: To present only skin lesions in the abdominal wall that we detected in morbidly obese patients and to examine them in the light of the literature.

Material and Method: Patients who applied to the general surgery outpatient clinic for bariatric surgery and who also had dermatological complaints and were referred to the dermatology outpatient clinic with the detection of skin-related complaints were retrospectively evaluated in terms of age and breast skin findings. Normal skin findings were separated into intertrigo, chronic recurrent folliculitis, eczemas, acanthosis nigricans and striae.

Results: A total of 60 obese female patients were included in the study. The mean age of the patients was 32.4 ± 8.8 years (19-53), and the mean body mass index was 42.6 ± 2.4 (40-49). Normal skin findings were present in 28.3% of the patients (17 patients). The most common finding was striae, and 60% (36 patients) had it. Then respectively, intertrigo was detected in 14 patients (23%), chronic recurrent folliculitis in 12 patients (20%), eczema in 5 patients (8.3%), and acanthosis nigricans in 2 patients (3.3%).

Conclusion: The most common findings on the abdominal wall skin of obese individuals are striae and intertrigo, and similar findings have been found in many studies in the literature.

Keywords: Skin findings, obesity, abdominal wall skin

INTRODUCTION

Morbid obesity is one of the most common health problems that we encounter today. The definition and grading of obesity is made on the basis of the body-mass index (BMI = Weight [kg] / Height [m²]). Morbid obesity is an outcome of body mass index value of 40 kg/m² or higher. Its incidence has increased gradually over the years, and unfortunately it continues to increase worldwide (1, 2).

Obesity should not be considered as a single disease and it should be known that it is associated with many comorbid diseases. It may cause many important health problems such as hypertension, diabetes, obstructive sleep apnea syndrome, cardiovascular diseases and increased cancer risk, as well as aesthetic concerns, especially in young female individuals.

Obesity seriously disrupts the basic functions of the skin, such as barrier functions, sebaceous gland activities and fat production, sweat production, lymph system flow, skin's collagen structure and functions, wound healing, blood circulation and subcutaneous adipose tissue. In these people, the permeability functions of the skin deteriorate and the skin dries out as it loses moisture, and irritation, redness and cracking may occur more due to this drying. It also creates susceptibility to maceration and other opportunistic infections due to prolapse (3, 4).

There are a few studies in the literature that examine the skin findings seen in obese patients. Complaints and findings of obese individuals were discussed in these studies (5, 6). In our study, we present only skin lesions in the abdomen wall that we detected in morbidly obese patients and examine them in the light of the literature.

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MATERIAL and METHODS

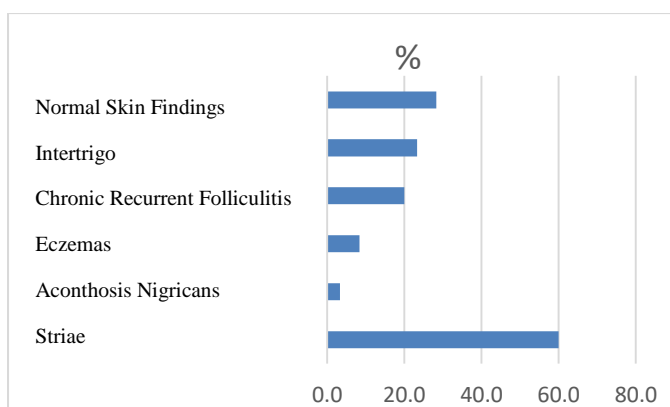
Patients who applied to the general surgery outpatient clinic for bariatric surgery between August-2018 and November-2021 and who also had dermatological complaints and were referred to the dermatology outpatient clinic with the detection of skin-related complaints were evaluated retrospectively. The data were evaluated from computer records and outpatient clinic doctor records. The patients were examined by the same consultant clinician.

The patients were evaluated in terms of age and abdominal wall skin findings. The patients were separated as normal skin findings, intertrigo, chronic recurrent folliculitis, eczema, acanthosis nigricans and striae. This study was conducted in accordance with the Helsinki Declaration Principles. The data were evaluated with the Statistical Package for IBM SPSS Statistics 22.0 program, and the statistics were given as a percentage (%), frequency (n), mean \pm standard, deviation minimum and maximum values.

RESULTS

A total of 60 obese female patients were included in the study. The mean age of the patients was 32.4 ± 8.8 years (19-53) and the mean body mass index was 42.6 ± 2.4 (40-49). Normal skin findings were present in 28.3% of the patients (17 patients). The most common finding was striae, and 60% (36 patients) had it. Then respectively, intertrigo was detected in 14 patients (23%), chronic recurrent folliculitis in 12 patients (20%), eczema in 5 patients (8.3%), and acanthosis nigricans in 2 patients (3.3%).

There were lesions in two different diagnoses in 16 patients and in 3 different diagnoses in three patients. Graphic 1 shows normal skin findings and percentage distribution of lesions. Table 1 shows the numerical distribution of skin lesions.



Graph 1. Normal skin findings and percentage distribution of lesions

Table 1. Numerical distribution of skin lesions

| | | n | % |
|--------------------------------|------|----|------|
| Striae | None | 24 | 40.0 |
| | Yes | 36 | 60.0 |
| Acanthosis nigricans | None | 58 | 96.7 |
| | Yes | 2 | 3.3 |
| Eczemas | None | 55 | 91.7 |
| | Yes | 5 | 8.3 |
| Chronic recurrent folliculitis | None | 48 | 80.0 |
| | Yes | 12 | 20.0 |
| Intertrigo | None | 46 | 76.7 |
| | Yes | 14 | 23.3 |
| Normal skin findings | None | 43 | 71.7 |
| | Yes | 17 | 28.3 |

DISCUSSION

Obesity, which means an excessive amount of adipose tissue in the body and is one of the oldest diseases of humanity, is increasing rapidly today (7). Obesity brings along many chronic metabolic diseases. In addition to these diseases that adversely affect human health, chronic and acute skin diseases associated with obesity are ignored (8).

Obese patients are at a higher risk of skin integrity deterioration compared to normal-weight patients. In this patient group, different skin diseases occur due to the barrier function of the skin, sweat glands, lymphatic circulation, deterioration in collagen functions, delay in wound healing, impairment of micro and macrocirculation, and changes in subcutaneous adipose tissue. Additionally, some dermatological diseases such as striae distensae, lymphedema, chronic venous insufficiency, adipositis dolorosa, hyperkeratosis, recurrent skin infections and psoriasis are also associated with obesity (7-11).

Since no comparison was made with normal non-obese people in this study, we do not know what the ratio of abdominal wall skin findings we detected to normal individuals. In our study, we examined only abdominal wall skin lesions in obese individuals. We could not find a study similar to this one in the literature. Thus, we made our comparisons with studies on obese individuals.

The most common finding we observed was striae with a rate of 60% patients. Striae are line-like scars that occur in the areas of the body that are most exposed to skin tension with the weakening of the supporting tissues of the dermis. Studies are most often found in the breasts, buttocks, abdomen, and thighs. In a study conducted on obese children, they detected 40% striae (12). In another study where a comparison was made on 510 obese individuals, 62% of striae were detected, and they found the rate of striae statistically higher in obese patients compared to the control group (6). In our study, in accordance with the literature, the most common finding was striae.

Studies have found that there is a linear trend between the severity of obesity and intertrigo (13). Al-Mutairi diagnosed 22% of intertrigo in a study of 437 obese patients (14). It was detected under the abdominal wall in 23% of the patients in our study. It is already an intertriginous area under the breast

and its incidence may be high. Intertrigo is most commonly seen in patients with obesity (body mass index greater than 30 kg per m²), diabetes mellitus, or human immunodeficiency virus infection, and in bedridden patients. Obese patients sweat more abundantly due to the thick subcutaneous brown fat layers and generate more heat than people with normal body mass. This situation affects the moisture components by increasing thermal friction and prepares the ground for intertrigo (8, 13, 15, 16).

Folliculitis is the name given to the limited, superficial pustular inflammation of the pilosebaceous unit, which includes the hair follicle and its periphery. Hot weather and sweating, obesity, tight clothing, irritating shaving, immunodeficiency, steroid and some drug use are predisposing factors. Sometimes there are folliculitis that recurs for months or years and it is very disturbing (17). It is known that infections (dermatophyte infections, intertrigo, infective cellulitis, folliculitis, other fungal and bacterial infections) are more common in obesity. The excessive skin folds in obese patients and the contact of these folds with each other, their moisture, and airlessness predispose to fungal and bacterial infections. In our study, folliculitis was detected in 20% of patients.

However, this rate is relatively high compared to the literature. In a study, folliculitis was reported with a rate of 0.8% in the control group and 6% in the obese group (18).

CONCLUSIONS

In our study with a small number of patients, 28% of the patients had normal skin findings. In fact, if we did not include the patients with striae, 26 of the patients (43%) had other findings.

The biggest limitations of our study are that it is retrospective, the number of patients is small and there is no comparison with individuals with normal weight. Prospective and comparative studies are needed to provide more precise information about the effect of obesity on skin.

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