

# The Failure Bauhinias Damper as a Possible Cause of Chronic Autointoxication and the Development of Psoriasis

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## Summary

The goal is to assess the impact of biogenetic on the condition of patients with psoriasis

**Materials and Methods:** The study group included 415 patients aged 19 to 65 years (34% of men and 66% of women), in whom irrigoscopy revealed the injection of contrast into the ileum, i.e., the insolency of the baugine flap (NBZ) was diagnosed, 74 of them suffered from psoriasis. For the detection of chronic intoxication were evaluated the data of clinical manifestations, indican urine, level of middle molecules, blood serum, lipid metabolism, microbial resistance, the hydrogen breath test.

**Results:** NBZ is a chronic endointoxication, which regresses in collaboration with the clinical manifestations of psoriasis after biogenetic.

**Conclusion:** Hypothesized that NBZ is one of the causes of psoriasis, and biogenetica – link in etiopathogenetic method of treatment.

**Keywords:** Insolency bauhinias dampers; Chronic endo intoxication; Psoriasis; surgery

## Introduction

Recognizing the harmfulness of dysfunction of such barrier structures as cardia, pylorus, sphincter of Oddi, heart valves, venous valves of the lower extremities, etc., modern medicine ignores the failure of the ileocecal locking system (Bauhinia valve) as a possible cause of the pathology of the digestive system and associated various extraintestinal diseases [1].

But it is worth paying attention to the opinion of I.I. Grekova [2] "Despite a number of works devoted to the proximal colon, the pathology of this department is still not sufficiently explained because in these works the role of the bauhinia valve was completely ignored." Bauhinia valve (BZ) distinguishes between the functions of the small and large intestines, isolates the small intestine from the reflux of the colonic contents, which differs sharply in chemical composition, physical condition and bacterial spectrum [3-5]. According to LG Peretz [6], in 1 ml of intestinal contents there are up to 5000 microbes, and in 1 g of the contents of the large intestine there are about 30-40 billion [6]. With the failure of the Bauhinia Damper (NBZ), billions of colon microbes are thrown

into the small one [4,6], colonization of the small intestine with allochthonous (alien) microorganisms occurs, excessive bacterial growth syndrome (SIBO) or enteric dysbacteriosis develops [7,8].

Absorbing the blood products of microorganisms (indole, phenol, cresol, skatole, pyrocatechin, carbolic acid, hydrogen sulfide, mercaptan, ethane, methane, etc.) causes autointoxication phenomena that cannot be sufficiently arrested, especially for liver diseases [7,9-11].

The development of putrefactive and fermentation processes in the small intestine - The consequence of the SIBO. The lymphoid tissue in the course of the gastrointestinal tract suffers because of a violation of the barrier function of the intestinal wall [4,12], resulting in a deficiency of immunoglobulins A and M. In 70% of patients with chronic enterocolitis there is a marked decrease in the body's immunological reactivity the body becomes less protected before microbial aggression - in patients with chronic colitis [5].

Recognizing NBZ as one of the anatomical causes of SIBR, nevertheless, the authors do not have a therapeutic effect on it

[13,14], although they assign SIBOs key pathogenetic mechanisms in many diseases of the digestive tract and associated extra-digestive conditions [7,10].

The interrelation between the pathology of the gastrointestinal tract (GIT) and the development of dermatosis is a well-known fact. The small intestine is the organ of the digestive canal, the most responsible for the development of dermatosis. The relationship between the intensity of skin manifestations and the activity of ileocolitis Roberts et al. [15] with psoriasis was detected in 2/3 of patients with enterocolitis [15]. Sensitization to intestinal autoflora was revealed. So sharply positive were skin tests, primarily to *Escherichia coli*-up to 97% [16]. Allergic dermatosis, rosacea, seborrhea, food allergy, urticaria, neurodermatitis were found in 176 (22%) of 800 patients with diseases of the alimentary canal [17]. In the etipathogenesis of dermatosis, the following enterocolitic links are distinguished [18].

a. The most responsible for the development of dermatosis is the small intestine. The immune complexes formed in the intestine penetrate the blood and settle in various tissues, including the skin with the development of immediate and delayed hypersensitivity types.

b. There is a shortage of many substances as a result of malabsorption in the small intestine, in particular vitamins, whose participation in the pathogenesis of dermatosis is large.

c. The use of sorbents, hemosorption, plasmapheresis significantly improves the effect of therapy, which confirms the role of endogenous intoxication in the development of dermatoses.

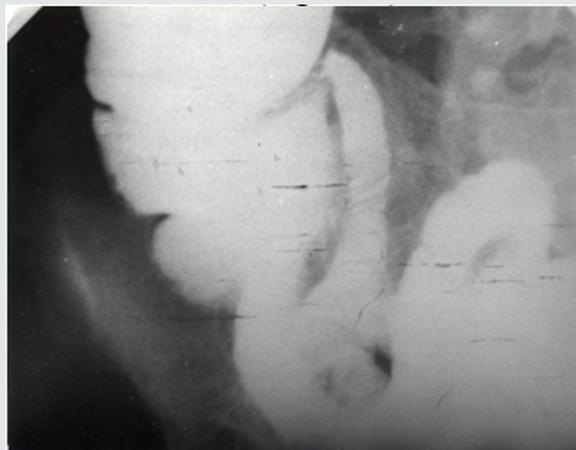
The goal is to assess the effect of Bauhinoplasty on the condition of patients suffering from psoriasis.

## Materials and Methods

The study group included 415 patients aged from 19 to 65 years old (34% of men and 66% of women), in whom a reflux of contrast into the ileum, i.e. diagnosed NBZ (Figure 1). In 111 patients, reflux of the radiopaque substance to the ileum was regarded by doctors as the norm. But all surveyed to the question: "Do you consider yourself ill?" answered in the affirmative. From the onset of the first signs of the disease, 15% of those examined passed from 1 year to 5 years, 32% have from 5 to 10 years, and 53% have more than 10 years. Of the 415 patients with NBZ, 74 suffered from psoriasis. Previously, they identified: chronic gastritis - in 62.5%, chronic cholecystitis - in 37%, chronic gastroduodenitis - in 12.5%, chronic colitis - in 12.5%, chronic pancreatitis - in 6%, duodenal ulcer - 6%. In 6% of patients with a history of appendectomy.

## Research methods

**Irrigoscopy:** It is important to note that the refusal to hold a tight filling of the cecum at NBZ can lead to a false-negative conclusion. A repeated X-ray examination immediately after a bowel movement is of fundamental importance, since during a bowel movement a maximum pressure is created in the bowel, which at the NBZ will be accompanied by a pronounced reflux of the radiopaque substance into the ileum (Figures 1-3).



**Figure 1:** Before surgery on irrigography all patients is determined by the reflux of contrast material into the ileum.



**Figure 2:** Patient S, Irrigography with tight filling of the cecum was performed prior to defecation, regurgitation of contrast and the cecum into the ileum is not detected.

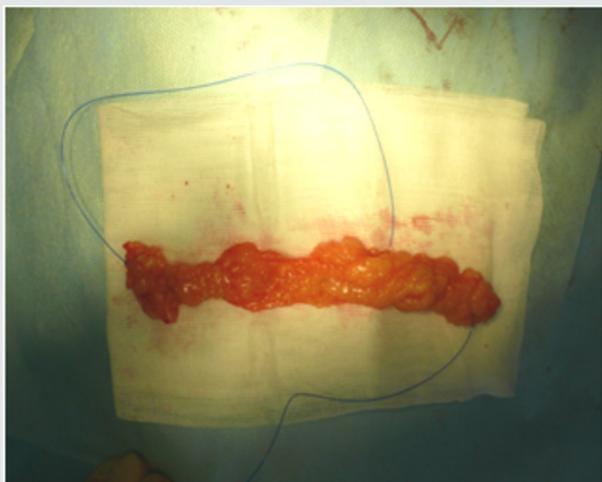


**Figure 3:** The same patient S. Irrigography performed after defecation, define a significant reflux of barium into the small intestine.

Chronic autointoxication was detected by such studies as urine indican (Obermeyer was tested for this purpose.), The level of the average serum molecules was measured according to N.I. Gabrielyana, lipid metabolism.

Microbial resistance was determined by the content of antibodies to peptidoglycan *Staphylococcus aureus* (method of Professor A.N. Mayansky). Peptidoglycan is the most common element of the cell wall of all bacteria, which makes it possible to indirectly judge the content of anti-peptidoglycan antibodies in general. The content of antibodies to peptidoglycan *Staphylococcus aureus* (strain 885, solubilized by ultrasound) was determined. Each sample was placed in 3 repetitions, calculating the average result. Negative controls were the wells in which the stage of treatment with the antigen (peptidoglycan) was omitted. Indicators of negative control from the results of the experiments were subtracted. A pool of 25 sera from healthy donors was used as a positive control. The results are statistically processed on the IBM / AT-286 computer using the following criteria: determination of averages, Fisher criterion, Wilcoxon-Whitney-Mann criterion.

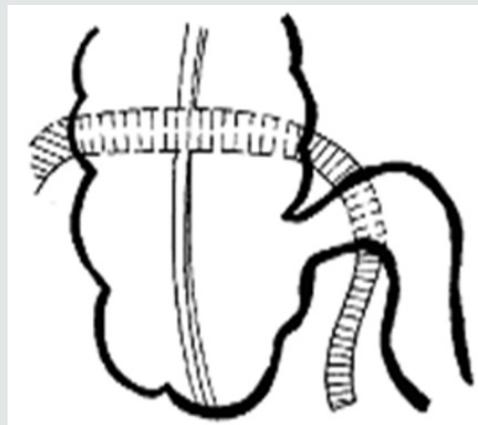
**Operation - Bauginoplasty (BP) - RF patent №2253378 - imparting reflux to the ileocecal junction [19]:** Omitting the details of the operation, we note its essence:



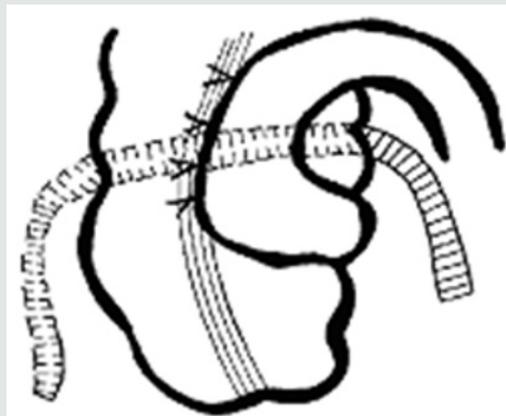
**Figure 4:** Free area of stuffing box with thread.

- A non-absorbable thread is embedded in the loose strand of the greater omentum (Figure 4), forming a structure (ligature-omental tape) to ensure the refluxity of the ileocecal junction.
- Ligature-and-omental tape is carried out through the mesentery of the terminal ileum 2-3 cm proximal to the ileocecal fistula and behind the ascending colon 2-3 cm distal to the ileocecal fistula (Figure 5).
- The terminal ileum for 6-7cm is fixed with interrupted sero-muscular sutures for the free tape of the ascending colon (Figure 6).
- By tying the ends of the ligature, we finally form the reflux structure (Figure 7), the diameter of which is equal to

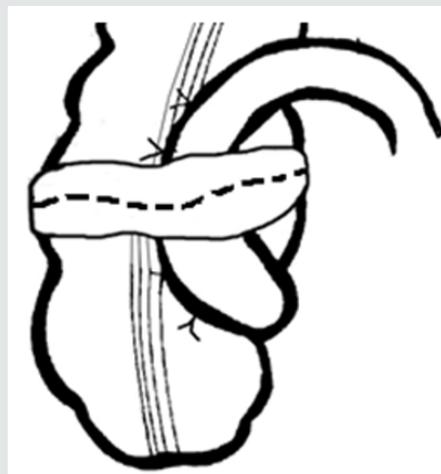
the diameter of the large intestine (positive decision on the application No. 2015107214 for the invention "Bauginoplasty Method". Authors: Martynov V.L., Khairdinov A.Kh., Semenov AG), which is exactly what makes refluxing.



**Figure 5:** Stage beginupdate: holding a ligature-the packing tape behind the ascending colon and terminal ileum through the mesentery.



**Figure 6:** Stage beginupdate: terminal ileum sutured to the anterior wall of the ascending colon.



**Figure 7:** General view of biogenetic.

**The functioning design to ensure the refluxity of the ileocecal junction works autonomously:**

a) Pressure in the lumen of the colon below or equal to the pressure in the lumen of the ileum, the ileum is not obstructed; the contents of the small intestine may enter the colon (Figure 8).

b) Pressure in the lumen of the colon is higher than the pressure in the lumen of the small intestine, the ileum is squeezed by the ascending intestine on the ligature-stuffing cage; the contents of the colon in the small intestine does not enter (Figure 9).

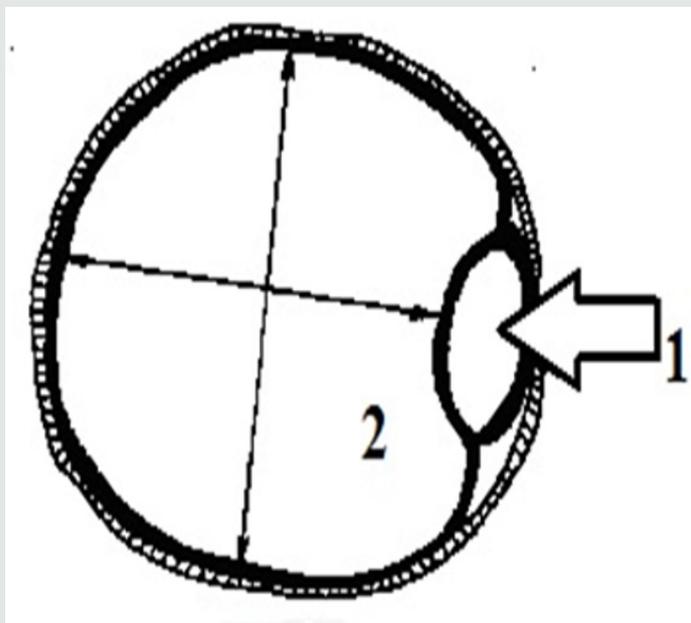


Figure 8: The contents of the small intestine (1) may enter the large intestine (2).

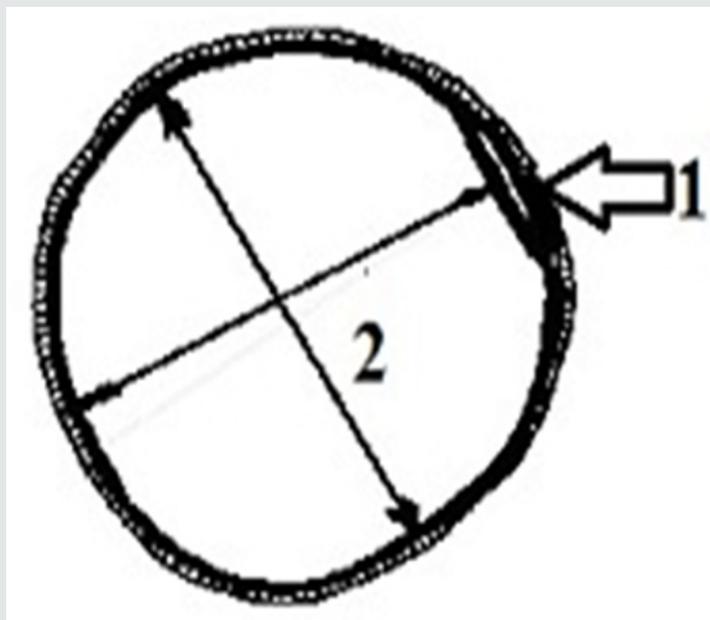


Figure 9: The contents of the colon (2) do not enter the small intestine (1).

Determination of hydrogen in exhaled air by the Gastrolyser apparatus (Figure 10) with a lactulose load. The advantages of VDT are: the ability to diagnose the entire small intestine for the presence of SIBO, a high level of correlation between the rate of

production of H<sub>2</sub> in the intestine and the rate of its elimination by the lungs [20,21], speed and non-invasiveness, a clear distinction between the metabolic activity of bacteria and their host, and the ability to assess the effectiveness of treatment SIBR [13].



**Figure 10:** Hydrogen breathing analyzer Gastro+ Gastrolyser.

The diagnosis of SIBR before the operation was made to 20 patients (12 women, 8 men) with NBZ and psoriasis no earlier than a month after taking antibiotics or putting enemas, which can give false negative results. Statistical processing of the results was carried out according to Fisher’s exact test, the Shapiro-Wilk, Wilcoxon test, descriptive statistics performed using Excel.

### Results

Of the 415 patients, only 14 (2.5%) did not show enterocolitic complaints, the rest noted that they determined the diagnosis of irritable bowel syndrome (Table 1). After performing the operation, Bauginoplasty (PD) showed a significant regression of clinical manifestations, which suggests their cause, namely, NBZ (Table 1).

**Table 1:** Clinical picture in patients before and after surgical correction of NBZ and in patients with psoriasis (%).

Clinical Manifestations	NBZ (%)				Psoriasis N=54
	Before surgery N=318	After operation			
		Yes	Less often less	not	
Stomach ache	100	17	25	58	78
Heaviness in the stomach after eating	79	4	13	83	51
Belching air	80	8	22	70	53
Spit-up food	52	2	4	94	12
Epigastric heartburn	68	2	0	98	56
Heartburn behind the sternum	68	8	2	90	56
Bitter mouth	73	4	2	93	15
Nausea	79	4	8	88	34
Constipation	73	6	10	84	56
Diarrhea	51	4	6	90	49
Relaxing chair	65	14	26	60	49
Intolerance to milk and other foods	55	13	4	83	44
Fatigue	92	17	17	66	63
Weight loss	54	20	0	80	19
Unpleasant smell from the mouth	75	8	14	78	17
Bloating	79	10	10	80	41
Rumbling in the stomach	95	14	39	47	71
Heartbeat	65	14	6	80	68
Dizziness	72	10	16	74	71
Darkening eyes	66	8	16	76	58

Of 415 patients with NBZ, the qualitative response of urine to indican was positive in 95% of cases (normally this reaction is negative). Before and after surgery, this reaction was determined in 24 patients. In all 24 before the operation, the qualitative response of urine to indican was evaluated as positive, after Bauginoplasty (BP), this reaction was positive only in 4 (5%) patients ( $p = 0.00272$ ).

The level of medium molecules (USM) is increased in 82% of patients with NBZ with  $Me = 0.34$  (the normal rate of USM serum according to NI, Gabrielyan is  $0.24 \pm 0.02$ ). Serum before and after BP is determined in 20 patients. Normal values before and after PD were found in 1 case. USM decreased compared with preoperative in 16 patients. Of the 16 studied with a decrease in USM serum in 7, this decrease reached normal values, in 9 the norm was not achieved. When checking the normality of the distribution of the values of the level of average serum molecules (the Shapiro – Wilk criterion was used) the following data were obtained: prior to the operation, the Shapiro – Wilk criterion  $W = 0.42929$ ,  $p = 0.0005$ ; after  $W = 0.92497$ ,  $p = 0.12353$ , i.e. the distribution of the values of the level of the average serum molecules after the operation can be approximately considered normal, and the distribution of the studied trait before the operation differs from the normal one. Before operation:  $Me - 0.34$  (interquartile range from 0.31 to 0.36); after surgery:  $Me - 0.29$  (interquartile range from 0.26 to 0.32). In this regard, when analyzing the presented data (two related samples by quantitative trait), we used the Wilcoxon test ( $p = 0.017$ ). The results obtained allow us to accept the hypothesis of the existence of statistically significant differences between groups for the trait under study. When NBZ due to chronic intoxication, the liver also suffers [22], which violates lipid metabolism, which is normalized by PD (Table 2).

**Table 2:** Lipid metabolism status in patients with NBC and after biogenetic %.

	When NBZ (data by V. p. Troshina) N=193	After Biogenetic (our record) N=54
Indicators	<b>Lipid metabolism</b>	
Normolipidemic N=193	20	84
Hyperlipidemia N=193	72	16
Hypolipidemia N=193	8	0
Age	<b>Hyperlipidemia</b>	
20 – 29 years	60	16
30 – 39 years	74	38
40 – 49 years	85	30

The content of antibodies to peptidoglycan *Staphylococcus aureus* was higher than in practically healthy people (positive control) in 8 patients (40%), it was less in 12 patients (60%). An increase in the antibody content of more than 2 times compared with healthy ones was observed in 3 patients (15%). Based on this study, it can be assumed that the majority (60%) of patients with NBZ have a decrease in the intensity of immunity to microbial antigens. After surgical correction of the NBZ in 1-2 years, the same

patients had higher levels of antibodies to peptidoglycan than practically healthy people (positive control) in 14 (60%) patients ( $p = 0.028$ ), less - in 8 (40%) patients ( $p = 0.172$ ). The antibody content is more than 2 times higher than in healthy patients in 9 patients (41%). Of these patients, 74 suffered from psoriasis. They also made a surgical correction NBZ - Bauginoplasty.

For histological examination, skin biopsy specimens were taken from the surgical wound area, which were evaluated by Dr. med. Professor N.S. Torgushinoy.

The changes found were reduced to three groups of features [23]:

- A. Obligatory for all drugs were dystrophic changes (horny dystrophy of the epithelial layer, manifested in para- and hyperkeratosis, mucoid swelling of the fibrous structures of the papillary and reticular layers of the dermis, especially expressed under the basal membrane. hyalinosis, more in the reticular layer; atrophy of the skin appendages - sweat sebaceous glands).
- B. Cell proliferation, first of all, capillary endothelium. The endothelium became high, juicy; often formed multi-row layers, almost completely overlapping the vessel lumen. This reaction is not associated with inflammation and can be regarded as a manifestation of changes in the overall composition of the blood. Changes in the integumentary epithelium are determined in the form of acanthosis foci.
- C. Diffuse or focal dermatitis in the form of productive inflammation with the prevalence in the cellular composition of lymphocytes, with a moderate admixture of segmented leukocytes. Inflammatory phenomena, as a rule, were combined with an intensive reaction of the vascular bed, edema and extravasation. Inflammation in skin biopsies was most often assessed as moderate.

According to the results of the hydrogen respiratory test (VDT) for SIBO with lactulose load in 20 patients suffering from psoriasis, before performing PD (Figure 11), all subjects under study revealed SIBO of 1–3 degrees (Table 3) with slowed orocecal clearance (large intestinal peak on 90th minute) and significant reduction of SIBR already on the 7th day after the operation (Figure 11).

**Table 3:** The degree and localization of SIBR in patients with NBZ and psoriasis (n = 20).

Criteria	Number of patients
The degree of SIBR of the small intestine (Mechetina TA, 2011)	
1 degree: increase by 20-50 ppm	3
2 degree: increase by 50-100 ppm	15
3 degree: increase by 100 ppm and more	2
Localization of SIBR (Gabrielli M., 2013) [14].	
proximal SIBR	1
distal SIBR	15
total, SIBR	4

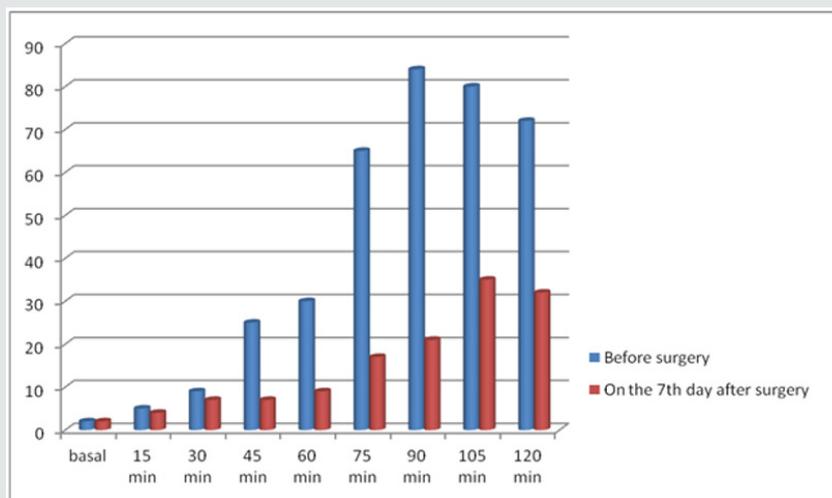


Figure 11: Dynamics SIBR (reduction) the results of the hydrogen breath test on day 7 after biogenetic.

The presence of SIBR of the small intestine in patients with NBZ and psoriasis is confirmed by our research, coincides with the data given by foreign authors [3,21] and fits into the framework of the pathogenesis of reflux of the contents of the large intestine into the lumen of the small intestine.

In the immediate postoperative period, patients with psoriasis showed a positive trend in the form of regression of skin manifestations and, accordingly, related complaints, namely: reduction or disappearance of itching, reduction in the area of lesions and their severity, reduction of desquamation and in some cases the complete disappearance of pathological elements on skin, which can be regarded as the onset of remission. After 3-12 months after surgery, patients underwent a control outpatient examination by a dermatologist. In all, the condition is defined as sustained remission during dermatoses (Figures 12-15). Also noted a decrease or disappearance of complaints of the gastrointestinal tract, presented before the operation.

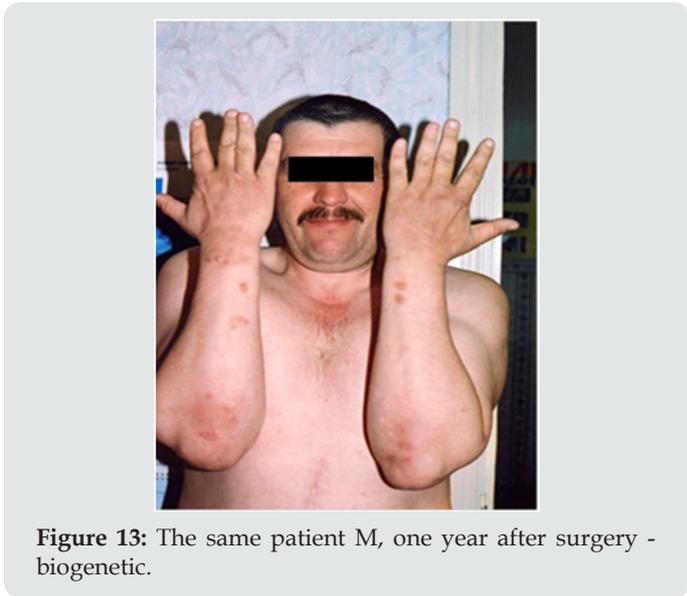


Figure 13: The same patient M, one year after surgery - biogenetic.



Figure 12: Patient M, before surgery.



Figure 14: Patient C, before surgery.



**Figure 15:** The same patient C, one year after surgery - biogenetic.

## Conclusion

When NBZ patients develop SIBR, chronic autointoxication, the organism's antimicrobial resistance decreases, which can be the cause of many pathological conditions and nosological forms, including psoriasis. Bauginoplasty is the etiopathogenetic method of their correction.

We put forward a working hypothesis: the inconsistency of the Bauhinia valve is a link in the etiopathogenesis of psoriasis, and Bauginoplasty is a surgical method for its correction. In 1970, Marks and Shuster [24] proposed the term "dermatogenic enteropathy". Based on the foregoing, we propose the term "enterogenous dermatopathy," since it more reveals the causal relationship between the gastrointestinal tract and dermatoses [1].

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