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MELAINOMANIA: Psychopathological mechanisms, physical and psychological diagnostic endpoints and psychotherapeutic model, based on a clinical study over 160 cases

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Abstract

Introduction: The melainomania is a psychological and skin syndrome and it expresses the obsessive need of tanned skin in a complete and constant way.

Purpose: We searched for the psychopatogenetic factors of the syndrome and the psychological and skin ends point useful to diagnosis and evaluate a treatment with mechanical rational psychotherapy model.

Materials and methods: Two random group, patient (P) (with sun exposure < 250 h year) and control (C), each of 80 women and 80 men, aged 38-56 years, were enrolled. We evaluated psychosocial damages by Rorschach test, Machover tests and psychologist-subject interviews. We evaluated skin damages by Glogau signs and echography. 40 women and 40 men were submitted to the psychotherapeutic treatment.

Results: Tests and interviews showed discomfort as obsession, dependence, bodily misperception, low index of reality. Statistical analysis was performed by s, F, W, rin P-C and OR, EFp and EFe in clinical trial. The psychotherapy reduced the uneasiness in 35 women and 37 men.

Discussion: Each event that produces uneasiness requires a rationalization process that individualizes in successive phases logical justifications for the lived discomfort. The mechanical rational psychotherapy identified the phase of the thought-deviation and it has planned the corrective factors.

Conclusions: The psychological tests, the interviews, the clinical signs and the ultrasound have allowed us to appraise the psychic and skin damages, while the method of the rational psycho mechanics seems to have brought a satisfactory therapeutic result

Introduction

Tanorexia is a neologism: tan (sunbathing) and anorexia (an = deprivation and orexis = appetite). A more appropriated diction is melainomania (melaino = to be tanned and mania = pathological obsession). That way replaces “anorexia” (deprivation) with “mania” (obsession) [1-4]. The melainomania is a syndrome because it includes: a) an obsessive-compulsive disorder into dependence to have a tanned skin in a complete and constant way b) skin damages from excessive sun exposure (sun or UV lamps). It is common in 20% of the population [4-8].

Aim

Before our study starting, previous authors do not describe diagnostic markers useful to diagnosis and they indicate no psychotherapeutic model. We looked for the psycopatogenetic factors of the syndrome and the psychological and skin ends-point useful to diagnosis and describe the effectiveness of the psychotherapeutic model employed.

Materials and methods

Inclusion criteria

The random sample of 360 subjects, after informed consent, was enrolled among frequenters of department, with thirty two – fifty five years aged and photo-type III and a 1:1 ratio male/female and patient (80 ♀ m 45.72 SD 5.23 and 80 ♂ m 45.30 SD 5.38) / control (80 ♀ m 45.80 SD 5.42 and 80 ♂ m 45.40 SD 5.36). Patients had sun exposure more than 200 hours a year for 5-10 years, controls less than 50 hour [9].

Exclusion criteria

Smoke and alcohol habit (they can cause increase in oxidation processes) - personality disorders (DMS-V criteria) -inflammatory, autoimmune, neoplastic or pigmentation disease (these can interfere with pigmentation or aging processes) –cormobility [4,9-10].

Were evaluated

Phototype by Saidman Test [7] - psychosocial disorders by Rorschach and Machover psychodiagnostic tests (Rorschach allow to interpret the

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psychic disorder inside a phenomenological perspective and Machover test detects the pathological conditions of the personality) [11] - aged skin damage of the face by Glogau clinical signs and ultrasound performed on forehead skin (always photo exposed area) with a 10-15 MHz probe (to examine derma and hypoderma thickness and echogenicity) [4]. (Tables 1 and 2).

Procedure

2-5 psychological consult (45m') allowed us to confirm psycho test results and to understand the importance that the patient attached to tanning. Furthermore, mechanical rational model psychotherapy (PT) was administered to 80 patient (40 ♀PT and 40 ♂PT) in weekly and based on the research and removal of the factors causing syndrome [12]. Skin lesions were treated with therapeutic protocol.

Statistic analysis

Results of psycho tests, in the randomization for independent groups P♀-C♀ and P♂-C♂, were expressed in the T standard score. Analysis was performed by SPSS®, 14 version Windows (Inc., Chicago, II, USA). Were employed comparative analysis (P/C) by Student t, Fisher F and Wilcoxon W tests and correlation analysis by Pearson Moment-Product (r) with p ≤ 0,05 significance (both W and t have a 95% power efficiency). Clinical analysis employed two by two table between P♀-PT♀ and P♂-PT♂ and Cohorte/RTC (in etiological connection, simple size and power). Odds ratio (OR) etiological fraction in population (EFp) and in exposed (EFe)and their confidence limits were estimated.

Results

Discomfort

Psycho-Tests and interviews showed patients with inner discomfort: anxiety, insecurity, obsessive traits, psychological dependence and difficulty in maintaining contact with reality, unawareness of the boundaries of your body (bodily misperceptions) and tendency to self -destruction. Rorschach test (Table 2) revealed obsessive traits (Dim, DDim, M and blocked movement), self-destruction (GIM, T.V.I.) and depending personality (relief of double, relief of symmetry), loss of self-esteem. Several values converge to define an index of low reality [1,2,13-15]. This one, as is confirmed by interviews too, is concretizes in the unconsciousness of one's bodily self. Machover test revealed in all patient insecurity, self-love, tendency to dream (detach from reality), shyness, anxiety, anguish, tendency to go into depression and limited action. The whole clinical picture came in a big mental effort to keep a precarious emotional balance (Table 1) [1,2,14].

Table 1. Patients and Control, Results of skin and psychological tests

	Patients		**Controlli**	
	80 Males	80 females	80 males	80 females
Average	44	43,75	43,85	43,7625
SD	7,51539	7,64315	7,3813	7,28314

Correlation among skin and psychological signs in patients and control			
Skinsigns		Psychologicalsigns	
Glucau	Ultrasound test	Rorschach	Machover
160 Patients: sun exposure > 250 h/year / for 5-10 years			
III-IV stages ▪ *widespread and deep wrinkles at rest* ▪ *keratosis* ▪ *telangectasias* ▪ *grey-yellow lesions* ▪ *skin neoplasm*	Dermis ▪ *Thickness 1.0 ± 0.5* ▪ *Reduction in hypoechogenicity* Hypodermis ▪ *Thickness 1.0 ± 0.5* ▪ *Reduction in hyperechoic*	▪ compromised relation reality ▪ depressive tendencies ▪ obsessive personality ▪ dependence	▪ compromised relation reality ▪ depressive tendence ▪ precarious affectivity
160 Controls: sun exposure < 50 h/year			
I-II stages ▪ *No or expressive wrinkles* ▪ *No or palpable keratosis* ▪ *Few brown spot*	Derma ▪ *Thickness 2.5 ± 0.5* ▪ *Hyperechoic* Hypodermis ▪ *Thickness 3.0 ± 0.5* ▪ *Hypoechoic with hyperechoic texture*	standard	standard

Melainomania indices in the Rorschach diagnostic (160 patients)	
Indeces	Average interpretations noticed in subjects
R%, R, R+%	Interpretationas a whole
F + %	impairment of touch with reality
F%	affectivecoarctation and ideational inhibition
M	presence of locked movement and obsessive traits
T.V.I.	aggressiononeself and excessive thought's polarization
t.v.i., H+A/Hd+Ad	Interpretation as a whole
succession	Confused
G	analytical approach to realityunderstanding
GIM	presence of a large number of GIM
Dim,DDim	Interpretation in alLarge number of Dim
Comprhensiontype	to go beyond obvious and precision
FC ↓↑	Interpretationas a whole
F-, of reality	tendency to become detached from reality
Response of double	Large number of this particular manifestation
Symmetryremark	Large number of this particular manifestation

Table 2. Results of the statistical analysis in 160 patients

Comparative analysis in all tests p < 0,00001 Pearson test shows a value close 0			
	Student t	Fisher F	Wilcoxon W
Females P-C	19.2440	371.6710	16.4428
Male P-C	19.2787	371.6710	16.4428

Two by two table (80 with psychotherapy and 80 without)						
	improved		notimproved		Total	
	♀	♂	♀	♂	♀	♂
Psychotherapy	35	37	5	3	40	40
no psychotherapy	01	02	39	38	40	40
Total	36	39	44	41	80	80

Chi square and exact association's measures				
value	♀	♂	1-tailed value	2-tailed value
Non corretto	58.38	61.29	<0.0000001	<0,0000001
Yates	55	57.84	<0.0000001	<0,0000001
Mantel-Haenzel	57.65	60.52	<0.0000001	<0,0000001
Esatto Fisher and Esatto mid-p			<0.0000001	<0,0000001

Risk estimates and confidence limits 95%				
	sex	Value	lower, upper	Series
Risk in exposed (RE)	♀	87.5%	73.42, 95.01	Taylor
	♂	92.5%	79.43, 98.12	
Risk in notexposed	♀	2.5%	0.0, 14.04	Taylor
	♂	5%	0.4962, 17.39	
etiological fraction in population (EFp)	♀	94.44%	83.91, 100	
	♂	89.74%	76.42, 100	
etiological fraction in exposed (EFe)	♀	97.14%	80.14, 99.59	
	♂	94.59%	79.07, 98.6	

Odds estimates and confidence limits P-values < 0.05					
Odds Ratio CMLE	♀ 234.2	34.8, 5699	♂ 194.4	36.7, 1696	Mid-p Esatto
		28.99, 11350		30.98, 2445	Esatto Fisher
Odds Ratio	♀273	30.41, 2451	♂234	37.01, 1484	Serie Taylor

	Kesley		Fleiss		Fleiss con CC	
Sample Size	♀	♂	♀	♂	♀	♂
Sample Size - Exposed	6	6	4	4	6	6
Sample SizeNonexposed	6	6	4	4	6	6
Total sample size	12	12	8	8	12	12

Power based on	♀ %	♂ %
Normalapproximation	100	100
Normal approximation with continuity correction	100	100

Skin lesions

Patient showed III-IV Glogau stage in clinical signs and a remarkable reduction in thickness and echo genecity of the derma and hypoderma in ultrasound test (Table 1). Control showed I-II aged in Glugaustage and no remarkable aging signs in ultrasound test. The findings US are superimposed to the ones described in the last studies [6-8,13] (Table 1).

Therapy

Mechanical rational psychotherapy produced regression in obsessional and addictive traits and in lack of the self-esteem in 29♀ and 32♂ after 10 session and in 6♀ and 5♂ after 6 additional sessions (ratio 72 regressed cases / 80 total patients). After 6 months follow-up the end of the psychotherapy, the psycho tests didn't highlight in 35 women and 37 men discomfort, whereas 5 women and 3 men still showed dependence signs (Table 1).

Statistical analysis

Analysis P-C females group did not show considerable difference compared to males group (Table 2) with p<0.0000. Effect size between PF-C and PM-C showed medium-large values (from 0,35 to > 0,50) and between PF and PM low value (0,1 close). Furthermore the control group did not revealed significant differences with the general healthy population.Odds ratio value 273, EFp 94.44% and EFe 97.14% values werebigger in fameless than in male 234.3, 89.74%, and 94.59% respectively (Table 2). P-values < 0.05 and confidence limits excluding null values (0,1, or [n]) are highlighted.

Simple size and power registered optimal values (Table 2).

Discussion

Discomfort

The main melainomania disturb is the body misperception which justifies the previous diction of Tanorexia: as the anorexic subject never see himself quite thin, so the tanorexic subject never see himself quite tanned. This disturbs arises in a lack of self-confidence in own body, due to the incompatibility to accept one's own image because it can lead to self-destruction. The subject is never satisfied with its own aspect and the continuous sun exposure reduces anxiety and improve mood tone [4,14,15].

Our travel, from skin to psyche has requested a method choice. Previous studies considered melainomania as a psychological state of dependence and obsession, without describing possible causes and above all the thought mechanism which determined this disturb. Was required a new method to study it which allows:

- to individualize this mechanism- to understand subsequent thought phases through which subjects come to the conclusion to have a totally tanned skin;
- to identify the phase in which begins this disturb or better the thought deviation;
- to explicate why tanned only made subjects overcome life uneasiness or why tanned skin seems to be the only way to satisfy their ambition.

These processes are defined by rational psycho-mechanic mode [12,15].

Patients

Interviews and tests results highlight in our patients that melainomania is a thought deviation which promotes tanned skin as a psychological and physic benefit. Four psychological signs groups were identified. They rised up in subsequent times so to justify the syndrome onset: a) inner discomfort (anxiety, anguish, insecurity, shyness, egocentrism); b) depression (precarious emotional balance, self-destruction, psychological dependence); c) obsessive tracts (difficult perception of reality, bodily misperception); d) limited action.

Each event that causes a discomfort (or neurosis) ask, to receiving subjects, a rationalization process to be able to overcome it and to not get in a major psychical suffering (psychosis) [4,12,14].

This thought process identifies logical justification (or better compatible connections with acquired cultural and experience background) to the experienced discomfort and above all to the perceived consequences. It can be developed in subsequent phases which express the thought process evolution in the research discomfort cause and in a possible remedy (treatment). So, the phases are the mechanism of event's maturation or of the discomfort's rationalization.

In this phase perturbative factors (from fictional collective, media messages, etc.) are able to purpose as guide or resolving example and the rational process is interrupted and it is deviated towards these new projections (exposed objects phase). These factors are simple schemes and immediately available in the social economy, these are imitative models for the body or for the lived. They are suggested as positives, as thought's realization or as an indispensable solution to welfare and they are often connected to an only subject's attainment.

The deviation is not a welfare identification with the tanned skin but with this single object. Sure enough the psychophysical welfare is produced by the acquisition of many factors (complex of objects) and a single element has not any possibility to fill up the numerous living needs and the discomfort continues to persist.

event → discomfort→ rationalization → deviation → acquisition of a mode

↓

repetition of the model (obsession, dependence) ↔ dissatisfaction and further discomfort

The thought deviation rises up in an immature or regressed personalities after psychical traumas (dissatisfaction, failure life, mourning) because they are more exposed to absorb imitative schemes already present (phase of the avoid thought). These (traumas) deviate the rationalization process or research of the guilt and of consequent remedy producing an obsessive state: constant application of the remedy that it shows not be suitable to the treatment of the discomfort (phase of the failed remedy). This obsessive neurosis could be explicated also as a subject's adaptation syndrome who continuously researches in the tanned skin the solution to own discomfort. The lack of self-esteem, produced by the lack of the solution or of the guilty object, moves into the body. This (body) does not appear suitable (tanned) enough to confront with the lived. The reification of the deviation realizes itself in the objectification of the tanned skin (phase of the white object). When defense mechanisms, employed in the adaptation process to discomfort, run out, (irreversible skin lesions and irrational behaviours) a major decompensation starts. This can evolve into a psychosis (denial of the discomfort, dissenting thought).

Psycho-Tests

Tests have highlighted the discomfort type present in subjects (lack of self-esteem) while the interviews the causes (immature subject or with regression from recent mournful event).

Psycho-therapy

Mechanical rational model identified, among phases of the rationalization process, the one that caused a thought deviation (tanning as only remedy) and it set to the corrective therapy. At first, subject's thought moved from the compulsion state, caused by the dependence of a only one subject (tanning), to fixation state or to dependence state on many correlated objects (tanned, shiny, devoid of blemish skin as a welfare single package). Subsequently new concepts -taken from the collective imagination-were considered and correlated to welfare (light, sun, oxygen, nature) to free subjects from the obliged dependence and educate them to a personal choice among different opportunity offered by life and able to overcome the discomfort (fun, cultural interest, sport, friendship, etc.).Finally, the obsessive marks disappeared from tests and the appropriation of the self-esteem produced by the psychotherapy, in 90% of cases, could encourage to continue the psycho treatment in the 5 subjects still positive after the follow-up. 1 female and 2 males did not get more tan, without psychotherapy, because they had been afraid of their skin lesions, that were not improved by therapeutic schemes [12,15].

Statistical analysis

Student and Fisher coefficients, in the PF-C and PM-C groups, show high values and suggest a good validity of the results (Table 2) and high homogeneity. The same value of Wicoxon coefficient in both groups suggests homogeneity of the sample too. Pearson coefficient close to 0 suggests no correlation between patients and controls and an effective employment of the psychotests (Table 2).

M patients revealed a OR value higher than F patients. This value suggests in M patients a less discomfort and a better answer to psychotherapy than F patients and an absence of similarity between the two groups. OR, RE EFp EFe High values and wide confidence limits suggest a close correlation between improvement psychotherapy and previous discomfort.

Conclusions

Psychic and cutaneous diagnostic tests have optimally highlighted discomfort caused by the syndrome, but this represents an expected event and already noticed many times in the past. The mechanical method psychotherapy model in the research of a single evolutionary stages of thought, of factors which could have demonstrated its deviation, of concepts could have accepted in subjects as substitutes of obsessive marks and dependence, instead, seems to have brought, although only in melainomania and in a limited number of subjects, a satisfactory therapeutic result.

Authorship and contributorship

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