

Hooded Disease – Polycystic Ovarian Syndrome: Lifestyle Change with DEBEC-Systematic

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ABSTRACT

Background: Obesity, irregular menstruation, fertility issues, and hair/skin problems as main-factors for Polycystic Ovarian Syndrome (PCOS) don't reflect every symptom of PCOS. Insulin resistance, hypercholesterolemia and reduced metabolism lead to far-reaching implications as increased risks of e.g. diabetes, cardiovascular disease, Hashimoto, endometrial cancer. Throughout a woman's life PCOS is present, actual without curing. This endocrine-metabolic disorder is multifarious, the root cause yet unknown. Therefore a defined therapy after early diagnosis is important.

Method: Pilot-Case Study, DEBEC-Systematic (Diagnostics- Eating- Balance- Exercise-Coaching) steering physical activity, dietary-change, holistic coaching. Period: 24 months, Endpoint: 15kg weight-reduction and lifestyle-adaption. Measuring: weight (kg) and girth of waist (cm), hip (cm), neck (cm), BMI, body fat (in %), waist-hip ratio (WHR). Blood test: hormonal status, cholesterol, triglyceride, fasten glucose. Review after 36, 48, 60 months to emblaze sustainability of DEBEC-Method.

Results: After 24 Month's therapy: weight – reduction 17.1 kg (11 kg within 12 months). Blood test: normal hormonal status (under birth control pill), normal blood sugar level but cholesterol and triglyceride were out of specification (OOS). Contraceptive: Try and Error with Midane, Yasmin, Yaz, Cerazette related to side-effects. Personal: motivated, full of energy, success within her studies. Psychological: learned accepting living with PCOS. Review after 36, 48, 60 months cholesterol was still OOS and weight was $61 \pm 2\text{kg}$ (BMI 22.8 ± 1.5).

Conclusion: This Pilot Study shows how an individual based therapy with defined modules (DEBEC) can be successful related to health risk reduction suitable for daily use. Fat metabolism was not affected and must be further under control. Because of training about nutrition and exercise the patient is enabled for own health management (e.g. weight control in a 2kg weight scope round BMI 23). Coaching is important for the patient to preserve over a long time.

Keywords

DEBEC-Method, Health risk reduction, Lifestyle, Overweight, PCOS.

Introduction

Depending on available publications approximately 5%-20% [1] of women in reproduction age are affected by PCOS. PCOS is not an admitted disease, it is a syndrome based on differential

diagnosis (see Rotterdam Criteria) [2].

Already known is the fact that PCOS is related to overweight and obesity [3]. In the meantime several phenotypes had been discovered. There are women with morphological existent polycystic ovaries but neither clinical symptoms nor biochemical spillover of androgens [4], as well as overweight and/or obese women with all symptoms.

A rather assured and visible indicator with 90% evidence is hirsutism, followed by acne, fatty skin and alopecia or thin hair. Overweight and obesity with signs of insulin resistance and lipid metabolism should alert the medical fraternity.

The not achievable wish to conceive is often based on PCOS. Infertility and the technical possibilities to get pregnant imply emotional pressure. The psychologic burden impacts health in general, quality of life, self-confidence, sexuality, sexiness. Women with PCOS are suffering from appropriate support. Symptoms as body hair and acne become trivialized.

Mostly they get a medication and the recommendation to change their life style to reduce weight. PCOS women need coaching over a long-term period because this syndrome cannot be treated as other metabolic disorders. PCOS is multifactorial and affects the metabolic and the hormonal control mechanism [5].

Because of a rather poor study and diagnostic situation and the still consulted outdated Rotterdam Criteria there is need for action.

A Pilot Case Study was conducted to show how an individual based therapy with defined modules (DEBEC-Method derived from DEBEC-System) can be successful related to health risk reduction and be suitable for daily use. DEBEC delivers the following modules: Diagnostic, Eating, Balance, Exercise, and Coaching. Mandatory are diagnostic and coaching. To get a high level of compliance and trust, the patient decides, if eating or exercise will be the starter. Balancing or relaxing is in the responsibility of the patient but must be reported as agreed.

DEBEC-Systematic with its related method is a new approach in health coaching related to chronic metabolic diseases to help patients to help themselves.

Method

Study Design: Case Study. DEBEC-Method covers anamnesis, measurement of girth, blood pressure, weight. Evaluated data as BMI, WHR and body fat was be done by evidence based formulas. The patient started with a computed BMI of 28.5 kg/cm². It was agreed on a reduction of 500 calories per day, less fat and low carbohydrates, no alcoholic drinks, hydration by water and tea, recorded in a kind of depicted diary. 3 to 5 times a week moderate endurance sport, 20 to 30 minutes recorded by a tracking system. Hair removal was done by mechanical epilation and by electrolysis.

Case Report

Anamnesis

The female patient was German, 19 years old, student and had been a competitive athlete for 10 years (tennis). First time of menstruation was with 11 years, regular without pain or other problems. Rather early the patient noticed strong body hair development specifically on thigh, chest and around papilla of the breast. One of the first gynecological examinations with age of 16 years the doctor noticed the symptoms but only administered

birth control pill. The pronounced inflamed and painful acne was determined at the gluteal region. She also suffered from aphthae over and over again.

Great grand-parents and grandparents generation

Within the anamnesis the following was found: hypercholesteremic, cardio vascular disease, myocardial infarcts (by-pass surgery) overweight/obesity, type 2 diabetes, stroke, gout, depression. They died with 70 up to 89 years. It was the generation with first and Second World War experience, low educated, impact of alcohol abuse by grandfather as well as smoking. No sport except working manual very hard.

Parents generation

Mother: Hypercholesteremic, endurance sport, natural, balanced eating behavior, stress.

Father: Gout, alcohol abuse, depression endurance activity and natural nutrition, normal to controlled lifestyle, moderate to high stress.

Time of conceiving: Mother with age of 31, patient was the third pregnancy, father was 42 years old.

Patient

Fraternal twin pregnancy until week 16, no reason for extinction, therefore stressed mother, pelvic presentation until week 34, normal childbirth, weight at birth 3600g, length 52 cm, lanugo on the back, breast fed until month 4. As a child she liked eating potatoes, pasta and pizza as well as meat. Patient was drinking water with preference.

Childhood was rather normal. At the age of 6 she began playing tennis and doing endurance sport in a moderate way. She moved in a 2 years rhythm around southern part of Germany because of job changing by her parents. This meant mental stress to her. Examinations related to her tennis career showed a slightly higher BMI than to other athletes. None of the doctors mentioned something in direction of irregularity.

At the age of 15 she felt she was different, often felt powerless, listless and she decided to stop the tennis career. At that time the hair growth became obvious in spite of the fair colored hair-growth. Problems with skin and acne as well as weight gain started. Eating disorders are not known. Weight controls by laxatives are not known. Alcohol and smoking began to play a role.

When she was 17 years old she requested for help. The whole situation was accompanied by insufficient relationships and first experiences with sexual activities. In addition weight gained and body fat distribution changed. A first attempt with DEBEC-Method which stood in state of development was started before the patient was diagnosed with PCOS.

The low-point of health was received in October 2011 before diagnosed with PCOS and start of this Case Study. The measured values are not evidence based because of the patient who wanted not to know about the reality.

Her first weight measure with a normal scale showed a shocking result of 79 kg. At that point her corporal flexibility was severely limited and correlated to her psychologic burden.

The patient was not open-minded, aggressive and depressive, didn't want to change anything in life. In order to feel better she did self-medication against headache with several pain killers but without curing. When it was mentioned by the gynecologist that she probably will never have children, she was willing to change her lifestyle.

To understand the important role of communication it must be added, that the gynecologist remarked PCOS at the age of 15 without sharing this fact. His explanation later when she was diagnosed, was that at that age the wish for having children was not important.

Results

Because of the assured knowledge about a slow-going basal metabolic rate in women with PCOS and the until now not known root cause within the interactions from carbohydrate, lipid- and hormonal metabolism disorder and or genetic reasons, it is helpful to know about the following intermediate results:

2011: Weight and Acne could be reduced for a short time. When starting studying the patient discontinued birth control pill. Joined life with alcohol consumption, smoking, junk food, less sleep, any sport. It followed rapid weight gain (approx. 1 kg per month) and increase of body hair. Face, chin, shoulder, breast, waist, thigh, acne only at the gluteal region was impacted.

2012: Improvements of the as-is-state developed slowly but steadily in correlation to the acceptance of PCOS by the patient. Measurements became easier and she was more and more willing to follow the nutrition and activity proposals. At this time no data about cholesterol, triglyceride and fasten glucose were available. The patient refused to do the laboratory testing until mid of 2012.

Within 24 months (2014) she reduced her weight significantly and constantly. Approximately 1 kg per month. She outperformed with 17 kg (instead of agreed 15 kg) and in total with 20 kg weight reduction. All blood values were within references after this 60 month therapy without additional medicine. Fat metabolism (e.g. cholesterol) should be under further control.

Because of training about nutrition and exercise the patient is enabled for own health management (e.g. weight control in a 2 kg weight scope round BMI 23). Coaching is important for the patient to preserve over a long time-period.

Limitations

Measuring by normal scales and ribbons from common household

could deliver unequal data, which lead to inaccuracy. Severity and compliance required trust in the patients severity and compliance when measuring was needed and done by the trained patient. Blood testing was mostly not done in the control period as agreed. Therefore trying to find correlations was difficult. Nutrition diary by taking picture from each meal enabled the coach to size up the daily energy load for calculating the volume of daily calorie restriction. DEBEC-Method was new and to be seen as an experiment. It was not clear in the beginning of this study that the patient will be motivated over the time period of five years. There was no defined guideline for PCOS-treatment with a certain structure and close coaching for orientation found by reviewing related publications for comparing or orientation.

Conclusion

This Pilot Case Study shows how an individual based therapy with defined modules (DEBEC) can be successfully related to health risk reduction suitable for daily use. Reduction of metabolic disorder based risks is possible; quality of life could be increased. A stabile situation over a longer period could be stated. The way of acceptance was hard but encouraged selfhood. Complexity of PCOS requires an interdisciplinary and individualized therapy! Change of Lifestyle depends on several factors. DEBEC is a patient orientated approach. Broader evidence with DEBEC-Method could be realized with further long-term studies.

Acknowledgment

I would like to thank my group of clients who enabled me with their attendance in early tests with my developed method to start this long-term pilot case study with DEBEC-Systematic which finally was successful and could help a young woman managing her PCO-Syndrome.

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