POLLITIN
FLOWER POLLEN EXTRACT

STEM CELL SUPPLEMENTS

6 RESEARCH PROPOSAL

1963 - NOW

No.1 pollen extract Global brand

"Research is the key to unlocking new knowledge and advancing our understanding of the world."

POLLITIN
FLOWER POLLEN EXTRACT

STEM CELL SUPPLEMENTS

Pollitin is a high quality natural extract. extracted from rye pollen under the production and research with technology The same standard as the production of drugs according to the requirements of the World Health Organization. therefore has been registered as “NUTRACEUTICAL” or “nutritional therapeutic nutrition” receiving the ORAC standard or the antioxidant concentration and the CAP-e Test or the ability to be absorbed into red blood cells at a very high level

The body receives almost 100% of the nutrients that are extracted from rye grass pollen. Sold to more than 50 countries on 6 continents around the world for more than 50 years, Swedish researchers have found that research studies. extracted from rye pollen contains Substances that are essential for the creation of new life in the plant family and are fundamental in the food chain. It is a natural anabolic steroid.

It has been proven by scientific laboratories that Contains a variety of nutrients including vitamins, minerals, phytosterols, carotenoids, flavonoids, nucleic acids, amino acids, substances necessary for the synthesis of RNA and DNA, antioxidant activity, enzymes, saturated fatty acids, precursors in the synthesis of prostaglandins.

So extracted from rye pollen Therefore, it is the ideal food for use in helping to make the body healthy and perfect holistic. Because there are nutrients that help to relieve fatigue, have antioxidants. The main culprit that causes many serious diseases to humans, contains important substances such as phytosterols that help boost immunity. keep the body healthy until able to cope with various illnesses caused by facing pollution and germs on a daily basis more effectively

IN SCIENCE WE TRUST

CELL REPAIRING

Research has confirmed that there are more than 300 types of nutrients, vitamins, minerals that are essential for the care of the body and cells.

NUTRASCEUTICAL

Contains important substances that have antioxidant properties. Thus helping to slow down aging and help your skin look better.

BODY IMMUNE DEFENCE

Research reports on efficacy that helps to inhibit prostatitis caused by hormones

PHARMACEUTICAL FOOD

Contains nucleic acids and other important substances that stimulates the body to create interferon to stimulate white blood cells to work more efficiently better deal with germs

GUARANTEED WORLD-CLASS PRODUCTION STANDARDS

Natural Choice Nutraceuticals

POLLITIN - EXCLUSIVE STEM CELL SUPPLEMENTS

Our premium natural extracts originate from meticulously selected flower pollen found in "Rye." These extracts undergo a unique proprietary production process crafted by Graminex L.L.C. in Ohio, United States. This exclusive process encompasses every stage, from cultivation and harvesting to the creation of high-quality natural extracts, specifically G60 and G63, derived from GBX flower pollen particles. Graminex holds the sole rights to this process and maintains adherence to strict pharmaceutical production standards in alignment with the World Health Organization's requirements.

Our extracts are renowned for their world-class production standards, boasting ORAC certification for exceptionally high antioxidant concentration and CAP-e Test accreditation, which signifies outstanding absorption into red blood cells. Over more than five decades, we have consistently refined and improved our product's efficacy.

Registered as a "NUTRACEUTICAL" or "nutritional therapy," Pollitin addresses issues at the cellular level, offering antibacterial properties and reinforcing immunity. By delivering essential nutrients tailored to various bodily systems, it equips the body to effectively combat abnormal cells. Our dedication to research is exemplified by over 150 certifications from medical and pharmaceutical institutions.

Moreover, Pollitin is not only a national achievement but a global triumph, available in over 50 countries. Our exclusive patented production process sets us apart as the sole producer of this unique formulation globally, rendering it impossible for anyone else to replicate our success in extracting and utilizing these flower pollen particles.

Pollitin - สารอาหารบำบัดเซลล์อ

สารสกัดธรรมชาติคุณภาพสูง สกัดจากเกสรดอกไม้จาก “ข้าวไรย์” ที่มีสูตรลับเฉพาะของ บริษัท (Graminex L.L.C.) ที่รัฐโอไฮโอ้ ประเทศสหรัฐอเมริกา ในการปลูก เก็บ และผลิตสกัดธรรมชาติคุณภาพสูง G60, G63 จากอณูละอองเกสรดอกไม้ GBX, Graminex® เอกสิทธิ์เฉพาะของบริษัท Graminex เท่านั่นที่ผลิตได้เพียงเจ้าเดียวในโลก อยู่ภายใต้การควบคุมมาตรฐานการผลิตยา ตามข้อกำหนดขององค์การอนามัยโลก

จนเราได้รับการรับรองมาตรฐานการผลิตระดับโลกระดับเดียวกับการผลิตยาเพราะ Pollitin ได้รับรองการทดสอบค่า ORAC หรือ ค่าระดับความเข้มข้นของสารต้านอนุมูลอิสระที่สูงมาก และ CAP-e Test หรือค่าความสามารถในการดูดซึมเข้าสู่เม็ดเลือดแแดงในระดับที่สูงจนได้รับ

การขึ้นทะเบียนเป็น “NUTRACEUTICAL” หรือ “โภชนเภสัช สารอาหารบำบัดระดับเซลล์” ที่สามารถแก้ไขปัญหาฟื้นฟูได้ลึกถึงระดับเซลล์ มีฤทธิ์ฆ่าเชื้อแบคทีเรีย และมีผลเสริมสร้างภูมิต้านทานเมื่อเซลล์ต่างๆ ได้รับสารอาหารที่เหมาะสมตามระบบต่างๆ ในร่างกาย ส่งผลให้ร่างกายสามารถต่อสู้กับ เซลล์ที่ผิดปกติภายในร่างกายได้ถึง 95% และยังได้รับรองมาตรฐานการผลิตและประสิทธิภาพจากองค์กรต่างๆ มากมายระดับโลก รวมไปถึงยังได้รับรางวัลการันตีอีกมากมายจาก เอกสิทธิ์สูตรลับพิเศษเฉพาะของ Graminex ทำให้สินค้ามีคุณภาพและเกิดผลลัพธ์ที่ดีและน่าเชื่อถือ จนได้รับการยอมรับระดับสากลอีกด้วย

ตลอดระยะเวลากว่า 50 ปี เราได้มีการวิจัยพัฒนาประสิทธิภาพอย่างต่อเนื่อง มีการวิจัยจากสถาบันทางการแพทย์และเภสัชกรรมรับรองมากกว่า 150 การวิจัย เรามีความภูมิใจอย่างมากในการเป็นผู้ผลิตหนึ่งเดียวของโลกที่ได้ครอบครอง ถือลิขสิทธิ์เอกสิทธิ์กระบวนการผลิตและสูตรเฉพาะ G60 และ G63 จากละอองเกสรดอกไม้ชนิด GBX ที่ไม่มีใครสามารถทำได้ ส่งผลให้ Pollitin เป็นที่ยอมรับจากคนจำนวนมากใน 6 ทวีป 50 ประเทศทั่วโลก และได้รับผลตอบรับที่ดีจากผู้บริโภคในการซื้อซ้ำสินค้าอย่างต่อเนื่องมากกว่า 50 ปี

"Happy MPM: *The exclusive importer and distributor of Pollitin in Thailand*, Laos, Vietnam, Myanmar, and Malaysia for over two decades. our commitment to *unparalleled reliability has touched the lives of over one billion consumers* worldwide."

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POLLITIN
FLOWER POLLEN EXTRACT

6 งานวิจัย เกสรดอกไม้ต่อภาวะโรคอ้วน

www.pollitin.com

LIPID SUPPORT:

GRAMINEX Flower Pollen Extract

Investigation on the Antioxidant Effect of Cernitin Pollen Extract

From the Institut of Pharmacology and Toxicology in Szezecin a report is informing of the antioxidant properties of Cernitin Pollen extract. The head of Clinical Pharmacology, professor Wojcicki, have studied rabbits and rats in this test. He divided the animals in 3 groups. One control group, one with a special high fat diet, and one with a combination of high fat diet and Cernitin pollen extract.

The study included an examination of lipid peroxidation in hyperlipidemic animals under the influence of pollenextracts. Malondialdehyde (MDA), a product of reduction during the oxidative process, was measured as an indicator of the degree of peroxidation. Also other parameters were measured as an indicator of the degree of peroxidation. Also other parameters was measured; cholesterol, triglycerides and lipoproteins.

The experiment was conducted over a period of 12 weeks for rabbits and 2 weeks for rats.

The study demonstrated the reduction of MDA concentrations under the influence of Cernitin pollen extracts, suggesting anti oxidant properties. Total cholesterol and triglyceride content was also decreased.

In the groups of animals receiving high fat diet, the level of cholesterol and MDA was heavily increased. In the blood plasma of rabbits MDA increased 372% and in rats cholesterol increased with 428% compared with the control group. When Cernitin extracts was added the level of MDA as well as cholesterol was significantly decreased. At the same time the alfa lipoprotein content was increased.

It has been demonstrated earlier that the Cernitin pollen extracts have a remarkable lipid lowering effect both in animals and humans. In addition to this it was established that they have a beneficial effect against the development of atherosclerosis.

The anti-oxidant hypothesis stipulates that healthiness involves protection against the free radical injury to cells by peroxidation of lipids. This experiment shows that an increase in lipid peroxidation occurs in animals suffering from hyperlipidemia when compared with controls. The reduction of MDA concentrations under the influence of pollen extracts suggest that Cernitins are effective in reducing lipid peroxidation, i.e. that they protect the destruction of cells, caused by free radicals.

Furthermore the MDA concentration in plasma is probably relative to the MDA concentration in arterial walls, and lipid peroxidation plays a role in the production of atheromatous plaques and arterial tissue injuries. Although platelet aggregation and lipid peroxidation are not synonymous, still the events which leads to aggregation appear to be accompanied by the generation of free radicals and peroxidation of lipids.

In lipid peroxidation, this free radicals react with unsaturated fatty acid to produce endoperoxides, which are very active substances with macrophagic and cytotoxic properties. Peroxidation can occur as the result of inflammatory or degenerative processes. Atherosclerosis leads to wounds in the arterial walls, which is accompanied by inflammation.

The result of this study support those of ealier experiment to ascertain the significance of Cernitin pollen extracts on the treatment of lipid metabolism disturbances, and the clinical studies on the inhibition of platelet aggregation by Cernitins.

This study is related to the same Cernitin extracts which are the effective ingredient in Cernitromb capsules and Cervital tablets.

COLD SYMPTOM SUPPORT:

GRAMINEX Flower Pollen Extract

The Use of Cernitin, an Extract of Organic Pollen, to Increase Body Weight and to Increase Resistance Toward Infections

BRIEF DESCRIPTION OF THE PRODUCT

For centuries the nutritional value of naturally occurring pollen has been recognized by scientists throughout the world. For the first time a commercial source of natural pollen has been made available by AB Cernelle of Vegeholm, Sweden, marketed under the trade name POLLITABS*. These tablets contain Cernitin, a microbiological extract of pollen, which is organic, unadulterated, and free of contamination. Prior to the extraction of Cernitin, the pollen is collected by a patented process (not insect-gathered) from unsprayed plants on a large plantation far removed from industrial wastes or other air-borne contamination. During the preparation of Pollitabs, no synthetic active ingredients are added. These food tablets are completely free from side effects and even pollen-allergic persons have taken large doses without any unforward effects.

THE BACKGROUND OF THE STUDY

During the past two years, we have used Pollitabs in our practice for many diversified complaints and syndromes. Certain results have occurred predominately regardless of the purpose for which the tablet was prescribed. Foremost among these have been increased appetite, weight gain, increased vigor and sense of well being, and decreased susceptibility toward infections. Therefore, it was thought that a football team would make a good preliminary control study to more accurately determine two of these factors in an objective manner: i.e. weight gain and resistance to infection.

DESCRIPTION OF THE STUDY

A local high school football team, consisting of thirty active players were selected for this study. The team was divided into two groups; those receiving pollitabs and those receiveing a standard multiple vitamin preparation. The study covers a period of 15 weeks, the first three of which neither Pollitabs nor multiple vitamins were used. It was during this initial 3 week period that each player lost excessive weight, in most cases, representing excess adipose tissue. Beginning at the end of the 3rd week, 15 players were started on two Pollitabs daily and the control group on the multiple vitamins daily. All medication was administered daily and individually by the coach. A record was kept of the players' weights at weekly intervals and the average weight for the group has been plotted on Graph 1. It can be noted that the group receiving the pollitabs regained their pre-season weight after taking the tablets for 7 $^1/_2$ weeks and 4 $^1/_2$ weeks later, at the end of the season, actually showed the Pollitabs group with a 5 $^1/_2$ pound average increase in weight over their preseason level. The group taking the multi-vitamins remained generally constant from the third to fifteenth week, showing no further loss or gain. The opinion has been expressed by impartial former professional players, who have seen this report, that it is almost unheard of for a football player to weigh more at the end of the season than he did before practice started.

CONTRAST OF STUDY

Graph 2 shows a striking contrast between the two groups regarding the number of days lost from the common cold or influenza. Since the two groups were in close contact physically during the study period and since the selection of the players to take Pollitabs was made at random without regard to socio-economic or

other factors, it is felt that the results are quite significant.

SUMMARY

A preliminary control study was performed to determine the comparative weight-building properties and infection-resisting properties of a newly available product, Pollitabs, as compared to a standard multi-vitamin.

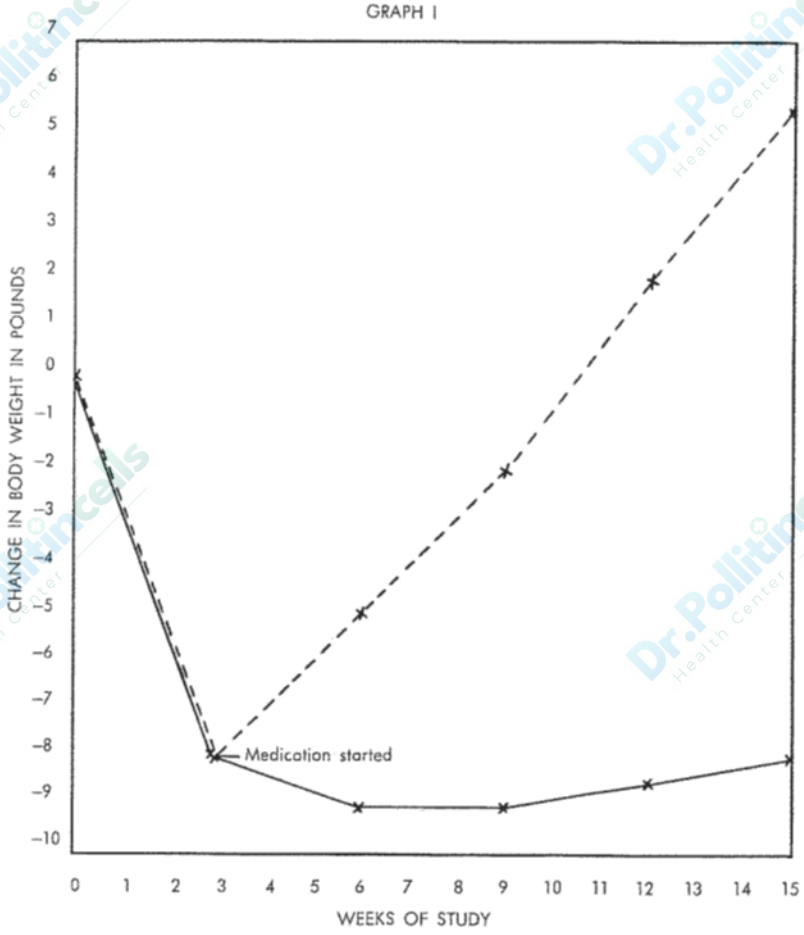
The results show a marked ability of the Cernitin Pollitabs to produce better weight gain and increased resistance toward infections. It is felt that further studies are definitely indicated and these are being planned.

This study was performed at the Winter Park High School and under the strict personal supervision of Coach Mosher, and under the direction of Charles E. Noyes, M.D.

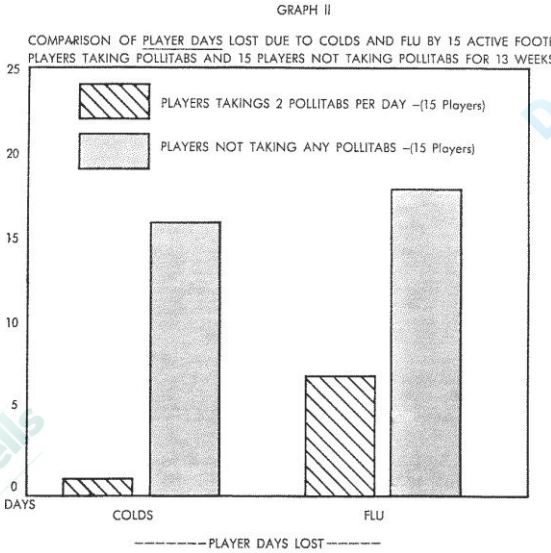
Charles E. Noyes, Jr. M.D.

* The Pollitabs used in this study were furnished by POLL-N-CO., INC., Maitland, Florida.

GRAPH I



GRAPH II



NAME	Pos	NO POLLITABS					WEIGHT with POLLITABS								Days Lost From Colds	Days Lost From FLU	Days Lost INJURIES	Games Missed a/c of Injury	Quarters Played our of 40
dates		8/22	8/29	9/5	9/12	9/19	9/26	10/3	10/17	10/24	10/31	11/7	11/19	11/21	11/28	12/5			
1. Gene Mooney	E	154	151	145	146	146	148	151	149	150	152	156	154	153	154	154	1	2	6*	0	37
2. John Cash	E	161	158	152	155	156	156	158	159	161	163	164	165	167	169	170	0	0	0	0	40
3. Max Morris	G	145	139	135	135	136	137	139	139	140	141	143	145	146	149	151	0	2	0	0	36
4. Ray Myers	FB	155	154	152	151	153	155	157	157	157	158	161	161	161	164	165	0	0	5**	1	36
5. Dewey Ramsby	QB	150	146	146	146	147	147	147	147	149	152	151	151	153	153	153	0	0	0	0	34
6. Chan Muller	G	169	165	162	164	166	166	170	172	171	170	172	175	177	177	177	0	0	0	0	36
7. Frank Ferguson	T	225	215	210	210	212	211	213	215	220	221	224	228	227	224	226	0	2	8***	0	39
8. Gregg Holland	HB	161	155	156	156	160	161	160	160	163	163	162	161	165	165	168	0	0	0	0	40
9. Tim Hartung	T	186	179	171	176	175	175	178	181	180	182	182	185	188	189	189	0	0	12****	2	32
10. Chas. Cayll	HB	149	141	138	141	141	142	144	144	144	147	149	152	155	156	157	0	0	5 (A)	1	36
11. Bill Collier	QB	145	141	140	141	142	143	146	146	145	145	147	145	145	144	146	0	0	0	0	40
12. Julius Mullins	T	184	180	176	175	176	178	181	180	180	179	180	182	182	180	184	0	1	0	0	40
13. Dick Thomas	C	150	148	143	146	145	145	146	145	144	146	149	152	154	156	156	0	0	0	0	30
14. Mike Born	E	168	161	159	156	157	157	160	163	163	165	166	167	169	170	173	0	0	5 (B)	1	36
15. Ned Whitner	FB	180	179	172	176	176	178	177	176	178	177	180	186	185	189	188	0	0	20 (C)	4	22

Weights taken weekly.

Boys took 2 Pollitabs per day

* Bruised Shoulder
** Sprained Ankle
*** Bruised Shoulder
**** Twisted Knee

(A) Sprained Back
(B) Broken Neck
(C) Broken Collarbone

15 boys did NOT take Pollitabs —
Their record: 16 days lost because of COLDS
18 days lost because of FLU.

Bob Mosher, Asst Football Coach
Winter Park High School, Winter Park, Florida
Tel: Midway 7—3078

LIPID SUPPORT:

GRAMINEX Flower Pollen Extract

Clinical Evaluation of Cernilton as Lipid-Lowering Agent

HERBA POLONICA
TomXXIX 1983 Nr 1

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Laboratory of Clinical Pharmacology, Pomeranian Medical Academy, Powstańców Wlkp. 72, 70-111 Szczecin, Poland

Cernilton® - a pollen preparation (AB Cernelle, Sweden) is composed of the following constituents (in 1 tablet): Cernitin T60 *(Extr. Pollin. sicc.) 60* mg and Cernitin GBX *(Extr. Pollin. dialys.) 3* mg.

Numerous studies proved the effectiveness of pollen in patients with chronic prostitis [10, 19]. Cernilton removes the oedema of the urethreal mucose surface from the bladder neck to the external sphincter, and in consequence improves urination [27]. Anti-inflammatory properties of Cernitin were shown as well [15]

Dubrisay [11] reported quite interesting results, concerning usefulness of substances prepared from pollens in geriatric patients.

Taking into account the above mentioned clinical data and the results of experimental studies [25, 26] we decided to perform investigations on the significance of Cernilton in subjects with hyperlipidemia. A search for new drugs with greater efficacy and safety continues because now available are not ideal hyperlipidemia drugs.

Materials and Methods

Twenty eight patients (24 males and 4 females) with mean age 44 (range 21-62) entered and completed the study. In all cases hyperlipidemia was diagnosed: 15 patients were classified as having type IV, 3 type IIA and 10 type IIB. No patient suffered from secondary hyperlipoproteinemia due to renal disease, myxedema, diabetes mellitus or liver disease. Serum lipoprotein electrophoresis had been performed on agarose gel to classify hyperlipidemia into Fredrickoson's types.

Patients underwent a complete physical examination including blood pressure, heart rate, x-ray of the chest, and detailed laboratory investigations: ECG, complete blood count, urinaanalysis, as well as bilirubin, urea, creatinine and uric acid concentration in the blood serum and activity of enzymes (SGOT, SGPT, alkaline phosphatase).

Patients were chosen among those, who had not responded to dietary management. They were instructed to continue their diet throughout the study.

Cernilton was given orally 1 tablet three times daily before meals over 1 month. The data reported are based on a comparison between the results of analyses on entry into the trial and after 1 month of management.

The treated patients were divided into two groups. Group 1 included 15 patients with hyperlipidemia that was not controlled pharmacologically previously. In the subjects the following determinations were carried out: in the blood serum - total lipids, triglycerides, total cholesterol, time of fibrinolysis in euglobulins, soluble complexes of fibrine monomers, fibrinogen, platelet aggregation, separation of proteins; and in urine - 17-ketosteroids. Group 2 contained 13 patients with hyperlipidemia resistant to clofibrate. They had been treated previously with clofibrate in a dose *1.5* g daily for 1 month without any effect on the blood lipid level. In the blood serum of these patients total lipids, triglycerides, total cholesterol, phospholipids and free fatty acids were assayed.

Total lipids were determined according to Zöllner and Kirsch [28], triglycerides by the method of Eggstein and Kreutz [12], total cholesterol after Blaszczyszyn [2], free fatty acids according to Duncombe [9] and phospholipids by the method of King and Wootton [16]. Time of fibrinolysis and fibrinogen concentration was measured after Niewiarowski [20], while the index of soluble complexes of fibrine monomers was calculated to according Lipiński et. al. [18].

The platelet aggregation was tested using an Elvi 840 apparatus with the method of Born [3]. 55 μM solution of ADP in the volumes of 3-50 μl was added to the platelet rich plasma (containing 200-400 thousands of platelets in 1 mm^3). Besides, ADP induced aggregation under the influence of Cernitin T60 was determined in *vitro.* 1, 5 and 10% solutions of Cernitin T60 were used.

Urinary 17-ketosteroids were detected according to Callow-Callow, as modified by Kandrac [17). Blood samples were drawn in the morning after 12h of fasting. Significance of the mean differences between the individual values were estimated with Student's t-test.

Results

Effects on serum lipids

The results of one month's treatment with 3 tablets of Cernilton daily are summarized in Tables 1 and 2. Considering all the patients treated (two groups) the positive response to Cernilton was noted in 22 patients among 28 persons receiving the drug. Triglycerides decreased by 49%.

In group 1 (Table 1) normalization of lipid fractions occurred in 5 patients, while improvement was shown in 8 patients. Mean of total lipids level decreased by 21% ($p<0.0l$), while triglycerides concentration was lowered by 32% ($p<0.0l$).

In group 2 (Table 2), i.e. in patients with hyperlipidemia resistant to clofibrate, 1 patient revealed normalization and further 8 patients showed improvement. Mean of triglycerides

level was diminished by 32% *(p<0.05),* as compared with the initial value. Total lipids decreased insignificantly by 14% (p>0.1) and total cholesterol was unchanged.

Other Clinical Effects

Mean of fibrinolysis (Table 3) was significantly shortened (time from 180 to 129 min), by 29% (p<0.01). We observed depression of the fibrinogen concentration but the difference was insignificant.

Platelet aggregation (Table 4) expressed by aggregation speed in degrees was insignificantly decreased by 13% (p>0.05) after 1 month of Cernilton administration, the remaining parameters describing platelet aggregation were unchanged.

Table 1. Effect of Cernilton on total lipids, triglycerides and total cholesterol in-patients with hyperlipidemia (group 1)

Number of patient	Total lipids (g/l)		Triglycerides (mM/l)		Total cholesterol (mM/l)	
	I	II	I	II	I	II
1	19.37	10.72	2.48	3.70	7.24	8.12
2	10.78	7.40	2.83	2.29	6.67	4.91
3	6.90	7.45	4.79	3.75	5.27	6.39
4	13.00	8.40	3.09	1.23	6.33	4.78
5	8.75	8.88	4.19	2.80	6.46	5.43
6	10.68	10.68	3.42	3.03	5.95	5.82
7	14.20	11.41	2.11	1.73	9.05	6.46
8	14.34	12.00	5.53	3.05	8.27	7.24
9	15.65	15.83	7.65	5.53	5.82	5.69
10	10.00	8.00	3.15	0.82	5.04	5.82
11	15.45	13.21	1.85	1.20	7.55	9.98
12	13.18	11.22	4.42	3.38	4.65	6.34
13	14.20	9.92	2.23	1.64	8.40	8.02
14	11.25	11.00	3.07	2.04	9.57	7.50
15	16.59	9.00	9.62	2.13	5.17	3.88
Mean	12.96	10.34	4.03	2.55	6.76	6.43
± SD	3.26	2.30	2.17	1.24	1.53	1.55
P I/II	< 0.01		< 0.01		> 0.3	

I= Initial value, II= after 1 month of treatment

Table 2. Effect of Cernilton on total lipids, triglycerides, total cholesterol, phospholipids and free fatty acids in patients with hyperlipidemia resistant to clofibrate (group 2).

Number of Patient	Total lipids (g/l)		Triglycerides (mM/l)		Total cholesterol (mM/l)		Phospholipids (mM/l)		Free fatty acids (µM/l)	
	I	II	I	II	I	II	I	II	I	II
16	14.18	15.56	6.61	3.56	8.07	8.66	3.35	4.17	526	598
17	38.89	37.30	26.68	25.65	14.12	15.52	8.98	8.72	706	625
18	11.83	10.06	3.65	3.26	5.69	7.14	3.96	2.94	647	860
19	36.90	19.65	33.40	13.91	6.13	5.90	4.55	3.57	522	510
20	13.43	9.44	6.02	2.30	6.34	5.87	4.32	4.30	625	820
21	28.43	21.27	115.05	8.49	10.86	9.62	5.08	6.67	833	1136
22	20.21	12.05	13.11	2.39	7.40	7.99	5.17	4.37	536	413
23	15.81	13.51	6.48	3.53	7.86	7.47	4.49	3.59	450	756
24	13.63	15.05	6.50	5.30	6.54	7.50	5.38	6.23	370	410
25	28.60	27.40	23.03	23.09	7.40	8.20	5.01	3.75	720	826
26	11.33	14.05	5.15	5.36	6.36	6.21	3.90	3.73	381	352
27	9.09	11.80	3.71	3.71	7.60	8.92	3.87	4.41	560	425
28	10.06	10.63	3.26	3.93	7.14	6.47	2.94	4.31	860	550
Mean	19.41	16.75	11.74	8.03	7.80	8.11	4.69	4.67	595	657
± SD	10.39	8.00	9.96	7.90	2.29	2.51	1.47	1.59	156	220
P I/II	> 0.1		< 0.05		> 0.2		> 0.9		> 0.6	

I= Initial value, II= after 1 month of treatment

Table 3. Time of fibrinolysis, soluble complexes of fibrine monometers, and fibrinogen level

Number of Patient	Time of fibrinolysus (min)		Soluble complexes of fibrine monomers (index)		Fibrinogen (mg/dl)	
	I	II	I	II	I	II
1	160	120	1.7	1.1	450	270
2	240	100	7.0	1.2	400	370
3	240	110	9.0	6.4	370	450
5	135	120	1.6	7.4	340	270
6	180	120	1.0	1.2	270	290
7	180	120	1.0	0.8	400	370
8	120	120	0.6	9.3	340	320
9	150	120	0.9	1.0	370	370
11	120	150	0.9	1.1	320	320
12	150	150	0.7	1.2	450	340
13	300	210	0.8	0.7	450	500
14	180	120	0.6	1.2	470	340
15	180	120	1.2	1.1	240	290
Mean	180	129	2.1	2.6	375	346
± SD	53	28	2.7	3.0	72	68
P I/II	< 0.01		> 0.6		> 0.2	

I= Initial value, II= after 1 month of treatment

ADP induced platelet aggregation was diminished under the influence of Cernitin T60 solutions added to platelet rich plasma. The reduction of aggregation was observed after 5% Cernitin T60 solution had been used (Fig. 1). In control experiment (without Cernitin) maximal aggregation amounted to 40%. Speed of aggregation was 65º**,** and aggregation after 2 mm amounted to 40%. After Cernitin T60 had been added as 5% solution in the volume of 50 µl, the mentioned parameters were as follows: maximal aggregation –35%, speed of aggregation –60° and aggregation after 2 mm—30%.

The platelet aggregation was abolished almost completely after 10% solution of Cernitin had been added, in the volume of 50 µl to the platelet rich plasma (Fig. 2). In control the parameters were as follows: maximal aggregation—55%, speed of aggregation—70% and aggregation after 2 mm—55%.

Urinary 17-ketosteroids (Table 5) increased from 60.6 to 82.8 µM/day i.e. by 37% ($p>0.05$) in patients receiving Cernilton.

Total protein level and separation of proteins into fractions did not alter when comparing initial values with results obtained after 1 month of treatment with Cernilton. There was no effect on blood pressure and heart rate. Another laboratory tests: blood counts, urinaanalysis, bilirubin, urea and uric acid as well as activity of enzymes (SGOT, SGPT, alkaline phosphatase) were unchanged in the course of the trial.

The Cernilton therapy was very well tolerated by all patients without any undesirable side-effects.

Table 4. Platelet aggregation

Number of Patient	Aggregation speed in degrees		Aggregation in 2 min (%)		Aggregation in I phase (%)		Aggregation in II phase (%)		Threshold of aggregation (μM)	
	I	II	I	II	I	II	I	II	I	II
1	80	73	40	42	44	32	97	57	1.5	2.0
2	56	60	25	21	13	14	42	47	0.5	1.0
3	50	50	7	7	12	12	55	55	0.5	0.5
5	70	52	38	35	21	17	53	45	1.5	1.0
6	44	44	16	24	15	17	40	34	0.5	1.0
9	68	75	25	52	20	40	45	80	2.0	1.5
11	76	64	25	43	25	19	47	60	0.3	0.5
12	76	44	38	37	14	20	73	60	0.3	0.5
13	62	58	37	32	27	15	75	40	0.5	0.5
14	71	44	40	10	26	13	50	35	1.5	0.5
15	71	72	37	50	40	33	52	58	1.0	1.0
Mean	66	58	30	32	23	21	55	52	0.9	0.9
± SD	12	12	11	15	11	9	12	12	0.6	.5
P I/II	> 0.05		> 0.6		> 0.4		> 0.6		> 0.9	

I= Initial value, II= after 1 month of treatment

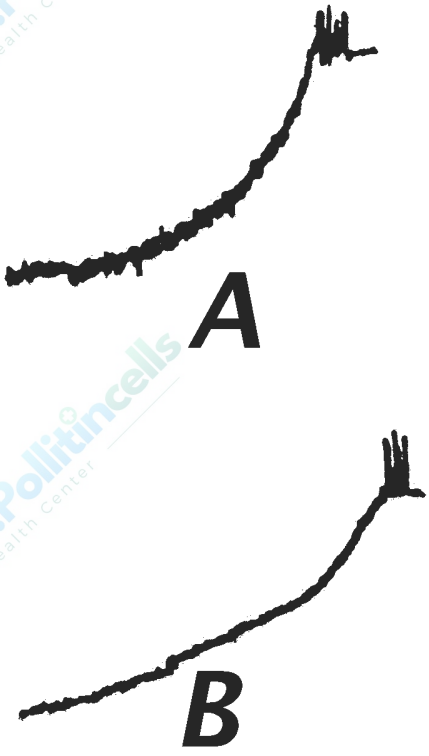

Fig.1. ADP introduced platelet aggregation *in vitro* and influence of 5% solution of Cernitin T60 (B) in comparison with control (A).

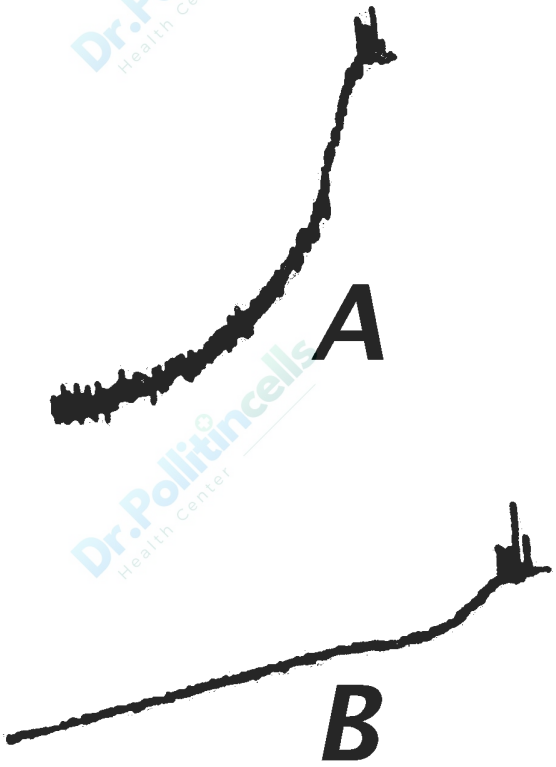

Fig.2. ADP induced platelet aggregation *in vitro* and the influence of 10% solution of Cernitin™ T60™ (B) in comparison with control (A).

Table 5. Elimination of 17 – ketosteroids with urine

Number of patient	Elimination of 17 – ketosteroids (μM/day)	
	I	II
1	111.65	83.65
2	116.55	146.65
3	51.45	116.55
4	17.15	123.55
5	61.60	61.60
6	142.10	109.20
7	16.10	31.15
10	129.85	123.55
11	14.70	66.50
12	11.90	44.80
13	19.25	29.05
14	51.45	109.20
15	43.40	30.80
Mean	60.60	82.80
± SD	48.00	41.20
P I /II	> 0.05	

I= Initial value, II= after 1 month of treatment

Discussion

Our present clinical studies support earlier performed by us experimental investigations on the significance of pollen extract for lipid metabolism disturbances [25, 26]. Data obtained now indicate, that Cernilton is effective in lowering serum triglyceride level, even in the cases of hyperlipidemia resistant to clofibrate. Moreover, in patients receiving Cernilton the activity of the fibrinolytic system is significantly increased. Besides, tendency towards decrease of fibrinogen concentration in the blood, as well as depression of platelet aggregation can be demonstrated.

Enhanced "spontaneous" aggregation has been found in diabetics and in patients, who later had myocardial infarction of thromboembolism [4, 5] Platelets of patients with diabetes, hyperlipoproteinemia and atherosclerosis quite often show an increased sensitivity to aggregating agents [7, 8, 22].

On the other hand, non-steroidal anti-inflammatory drugs are reported to have inhibitory effects on platelet aggregation [141. Taking into account an anti-inflammatory [12], as well as lipid lowering properties of Cernitin, the relationship between Cernitin and platelet aggregation could be assumed.

Inhibition of platelet aggregation by Cernitin T60 has been revealed by us *in vitro.* Considering concentrations of the preparation (5 and 10%) showing such an inhibition, it is to be noticed, that there are many components included: amino acids, vitamins and microelements. When applying for example 5% solution of Cernitin, 0.4% solution of amino acids is being used.

Clinical implication of the obtained results should be taken into account [10]. Importance of those observations is underlined by the reports focused on the relation between atherosclerosis and hyperlipoproteinemia. The association between elevated serum lipid levels and

increased incidence of atherosclerotic disease has been recognized by both epidemiologic and clinical investigations [1, 4]. Recent reports having the association of not type II, but type IV hyperlipoproteinemia (hypertriglyceridemia) with atherosclerotic coronary artery disease [1,4]. Lowering serum lipids may reduce the incidence of atherosclerotic disease. There is also growing evidence, that the changes in the state of the blood such, as increased in hyperlipoproteinemia, fibrinolytic activity [18] and fibrinogen [16] may influence the degree of the consequences of the vascular lesion, and their control may be therapeutically useful.

Cernilton was useful in a clinical trial conducted by the double-blind technique and involving elderly patients [11]. All the patients were suffering from physical and mental asthenia with severe anorexia and loss of weight. Appetite was restored and weight increased. Both physical and mental asthenia disappeared. Biological tests revealed a slight rise in blood protein level and a marked rise in urinary 17-ketosteroid and 17-hydroxysteroid levels which suggest stimulation of adrenocortical secretion.

Significance of our findings can be stressed by the fact, that clofibrate—the basic hypolipidemic agent having been widely used over the last years, can not be recommended as a lipid lowering drug for community-wide primary prevention of ischemic heart disease [21].

There were no complaints, adverse effects or refusal to take Cernilton tablets. Since hypolipidemic drugs may need to be taken for the life of the patients the frequence and type of adverse are important.

In conclusion, Cernilton—preparation obtained from the pollens, should be considered as a drug recommended for prevention and treatment of atherosclerosis.

References

1. Blankenthorn D.H., Chin H. P., Lan F.Y.K.: Ann Intern. Med. 1968, 69, 21.
2. Blaszczyszyn M.: Wiad. Lek. 1970, 16, 28.
3. Born G. V. R.: Nature 1962, 194, 927.
4. Breddin K.: Thromb. Diathes. Haemorrh., Suppl. 27, Stuttgart 1968.
5. Breddin K., Kryzywanek H. J., Zieman M.: Acta Clin. Belg. 1975, 30, 145.
6. Carlson M. A., Bottiger L.E.: Lancet 1972, 1, 865.
7. Carvahlo A. C.A., Colman R. W., Lees R. S.: Circulation 1974, 50, 570.
8. Carvahlo A. C.A., Colman R. W., Lees R. S.: Engl. J. Med. 1974, 434, 290.
9. Duncombe W. G.: Clin. Chim. Acta 1964, 9, 122.
10. Denis L. J.: Acta Urol. Belg. 1966, 34, 49.
11. Dubrisay J.: Unpublished data.
12. Eggstein M., Kreutz F. H.: Klin. Wschr. 1966, 44, 161.
13. Fucella L. M.: Pharnacol. Res. Commun. 1979, 11, 825.
14. Heinle R. A.. Levy R. J., Fredrickson D. S.: Am. J. Cardiol. 1969, 24, 178.
15. Itah R.: J. Med. Soc. Toho University 1968, 1, 16.
16. King E. J., Wootton I. D. P.: Microanalysis in Medical Biochemistry. Churchill Ltd., London 1965.
17. Krawczynski J., Osinski T.: Laboratoryine metody diagnostyczne. PZWL, Warszawa 1967.
18. Lipinski B. et. Al.: Thromb. Diathes. Haemorrh. 1976,17, 65.
19. Molnar J.: Magyar Sebeszet 1969, 21, 265.
20. Niewiarowski S.: Krzepniecie krwi. PZWL, Warszawa 1960.
21. Oliver M. F., Heady J. A., Cooper J.: Brit. Heart Journ. 1978, 40, 1069.
22. Ross R., Glomset J. A.: N. Engl, J. Med. 1976, 265, 369.
23. Rymaszewski Z.: Pol. Arch. Med. Wewn. 1975, 53, 137.
24. Sadoshima S., Tanaka K.: Atherosclerosis 1979, 34, 93.
25. Samochowiec L., Wojcicki J.: Herba Polon. 1981, 27, 333.
26. Samochowiec L., Wojcicki J.: Herba Polon. (in press)
27. Takeuchi et. al.: Unpublished data
28. Zollner N., Kirsch K.: Z. Ges. Exp. Med. 1962, 135, 545