

PHYSICO-CHEMICAL APPROACH TO DRUG DESIGNING

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ABSTRACT

The author has advanced in this paper a concept that all bio-chemical reactions and processes occurring in body, are controlled and regulated by pH of the fluid of the body cells. An imbalance caused in pH in any part of the body alters the route of certain natural reactions, start producing toxins or stops the generation of desirable chemicals, like hormone and vitamins, and thus lead to the manifestation of chronic diseases which stay in body until pH is corrected. The author is presenting here pH based system of treatment and the results of clinical trials conducted on several patients of chronic diseases and in some cases their pathological data also reported.

Keywords : Drug designing, Toxins and pathological data.

INTRODUCTION

Lacuna in the Present System of Drug Designing

Inspite of much advances made in medical chemistry, there is a large number of chronic diseases which are incurable. Modern "mono-molecular synthetic drugs" have succeeded in reducing the severity of symptoms of chronic diseases and have prolonged the life span of patients. But they have failed in curing chronic diseases like asthma, coronary heart diseases, osteo and rheumatoid arthritis, glaucoma, dementia, depression, fits, renal failure and a host of others. Patients suffering from such diseases have to live on medicines for life or have to undergo surgery.

The present system of drug designing is confined mainly to the branch of science of organic chemistry. This system is founded on the concept of "structure-activity relationship" advanced by Crum-Brown¹, more than a century back and was developed further and given practical shape of Paul Ehrlich²⁻⁴. These synthetic drugs were through the mechanism of suppression of the biological activity of the toxic chemical molecule produced in the body of a diseased person, by blocking the functional group of a latter. But, these drugs do not stop the production of fresh molecules of the toxic chemical. Hence, synthetic drugs suppress the symptoms of chronic disease for a short duration, and provide temporary relief to patients. Chronic diseases, thus, stay in the body for life. Since, a synthetic mono-molecular drug eliminates the effect of a toxic chemical, already present in the body but does not stop the production in body, it fails to cure a chronic disease.

Citing an example, histamine is a toxic chemical produced in the body of patients suffering from allergic disorders. Anti-histaminic drugs were designed to combat the allergic diseases. These drugs provide very effective but temporary relief to patients suffering from chronic rhinitis, coughing, skin allergies etc. but they do not cure them. Same is true for drugs designed for a host of other chronic diseases. Similarly, there are diseases in which certain kind of pathological harmony is disrupted in some parts of the body, such as, blockage of arteries in angina, stoppage of the production of lubricating fluid within knee joints in arthritis-arthritis, excessive uterine bleeding in menorrhagia and fibroidal growth in women, development of pressure in eyes leading to glaucoma blindness, development of nephritic syndrome resulting in kidney failure etc., since synthetic drugs fail to reserve the processes involved in such episodes, these processes are considered as irreversible in allopathy and so one has to resort to surgery and replacement of non-functioning parts of the body.

Present system of drug designing which is practiced for more than a century has incorrectly visualized the effect as the cause of the disease so could not succeed in curing a wide range of diseases. The failure of synthetic drugs to cure chronic diseases strengthens the view that the cause and origin of chronic diseases fall outside the domain and scope of the present system of drug designing which is founded as the branch of science of structural organic chemistry.

pH, the regulator of bio-organic Reactions An over view:

It is a common observation that the routes of

a large number of organic reactions are pH dependent and so one and the reaction yields different end products with the changes in pH. For instance, the reduction of dinitrobenzene in acidic pH produces diamino-benzene, while in alkaline medium, hydroxyl amine. Hence, for the production of a specific organic chemical in industries pH is precisely controlled to avoid the formation of other undesirable chemicals. Human and animal bodies are large factories where innumerable bio-organic reactions, physico-chemical processes and pathological events are occurring. All of them are pH dependent and are controlled and regulated by pH.

Postulations of cause origin and cure of chronic diseases:

1. In human and animal bodies pH of the fluid streaming through the body cells controls and regulates the entire gamut of bio-chemical reactions occurring in the body, such as metabolic, enzymatic, genetic, hormonal, bacterial, viral, fungal, immunological and others.
2. pH also regulates all physico-chemical processes and pathological events occurring in human and animal bodies.
3. If the pH of the fluid in any part of the body is distributed from its natural state of equilibrium, due to the influence of any external or internal factor like environmental, bacterial, hereditary, foreign chemical etc., it alters the routes of certain biochemical reactions of the body, and thereby produces unnatural chemicals, toxins (like histamine) or stops the production of natural chemicals (like insulin) and manifest chronic diseases in body. These diseases would exist in body for life until pH is corrected.
4. None of the disease or pathological event or symptom, falls outside the domain and purview of pH t-regulation.
5. It may finally be stated that all chronic diseases are the affect of one general cause viz., the imbalance in the intrinsic pH of the fluid of the body cells; and so they can be cured by one general remedy pH regulation, a treatment based on the correction of the distributed pH of the body fluid. This treatment can be named as pH Opathy or Physico-Chemical Therapy (P.C.T.)

Classification of Diseases based on their origin

Diseases can be classified into the following two broad categories on the basis of the nature of their origin.

A) Chronic Diseases:

These diseases originate as a result of continuous production of toxic chemical, within the body, due to an imbalance caused in the pH of the fluid of body cells. These diseases can, therefore, be cured only with the drugs, which regulate pH.

B) Acute Diseases:

These diseases are also triggered in the body by toxic chemicals but by those which are brought in the body from external sources, and not produced by the body itself, like food, water, environment, contact with other living beings, or with materials, etc. In these cases since toxic chemical is not produced within the body, the diseases can be cured through the mechanism of molecular interaction, between the toxic molecule and the drug molecule by the processes like oxidation, reduction, substitution, neutralization, coordination, complex formation, inhibitive action of structurally related organic monomolecules, absorption and other types of chemical interaction processes. The drugs can therefore be designed for this category of diseases from organic or inorganic chemicals derived from plant, biological or mineral sources or of synthetic monomolecular entity. Many of these second category of diseases can as well be cured by pH therapy.

Nature has bestowed in plants and bio-products, a combination of pH controlling capabilities and specific oxidative, reductive and other molecular interaction properties. Hence, phyto and bioproducts, with known therapeutic values, can be used as supplementary drugs to the broad based pH therapy for healing diseases.

pH based medicines

pH based oral medicines are prepared from herbal and plant products, with pH values kept below 7. The medicines are extremely fast acting. The author, therefore presumes that these drugs work through reactivation of specific enzymes in the body which have ceased to function and to regulate specific bio-chemical reaction.

Clinical Trial Reports on the Treatment of Chronic Diseases

The author developed this pH therapy in 1976 for treating himself from asthma. He was cured from the disease within a fortnight after suffering for four years. From November, 1988 the author has treated more than 3000 patients suffering from all types of asthma with the success rate of cure of about 80% and another thousand patients suffering from other chronic torturous and fatal diseases, with

as high rates of success as 90% to 100%. Some of these diseases are coronary heart disease, chronic uterine bleeding in women, osteo and rheumatoid arthritis, dementia depression, fits, peptic ulcer, urine infections and many others. Here below are presented clinical data on the treatment of some of the chronic disease.

Prevention and cure of coronary heart diseases (Angina)

Coronary heart diseases (CHD) are the manifestation of high levels of Triglyceride and L.D.L. and low level of H.D.L. in the blood. One becomes prone to CHD risk, when the lipid profile component levels are as follows:

Triglyceride > 200 mg/dl
L.D.L. > 100 mg/dl
H.D.L. < 45 mg/dl

However, CHD risk can be avoided if following two lipid risk factors are brought down below the following limits:

LRF – 1 : Total Cholesterol/ HDL < 4.5 ... (1)
LRF – 2 : LDL/ HDL < 3 ... (2)

Equation (1) can also be expressed as following also:

$HDL > LDL + VLDL / 3.5$... (3)

Since, medicines which can preferentially decrease triglyceride or LDL and increase HDL without causing side effects, are not available in market, emphasis in allopathic is on dietary control and exercise therapy to arrest the rise of triglyceride and LDL and to raise HDL in blood. All these measures are too slow and have to be pursued for the life. At the same time they are not curative.

On the contrary, pH therapy has succeeded in the manipulation of lipid profile components in blood as per desire and thus to prevent CHD, without causing any side effect. Action of these drugs is very fast and so the entire treatment is completed in days or a few weeks. The author is presenting here clinical data of the treatment of three patients of CHD or high cholesterol alongwith symptoms of their diseases. In levels, and in the third case to reduce triglyceride from high level, to eliminate the chances of CHD inflection.

Case – 1 : Patient : Mr. V. (60)

Mr. V., a patient of coronary heart disease, with triple vessel block, heavy breathlessness on slightest exertion and swelling in legs, came for the treatment. He was unable to walk even 50 meters

owing to breathlessness. Doctors advise him for immediate bypass surgery. His treatment was commenced under pH therapy with the objective of 1 preferentially increase HDL and decrease total cholesterol, triglyceride, LDL and the two risk factors. Test results are presented in Table 1.

Table 1

S. No.	Cholesterol Parameters	Starting day mg/dl	6 th day mg/dl	17 th day mg/dl
1.	Total Cholesterol	230.3	198.3	191.9
2.	Triglyceride	234.4	132.0	91.1
3.	H.D.L.	36.1	41.0	51.0
4.	L.D.L.	147.3	31.5	122.8
5.	V.L.D.L.	46.4	26.4	18.2
6.	Cholesterol/HDL	7.6	5.5	4.12
7.	LDL/ HDL	4.08	3.21	2.41

As desired, total cholesterol decreased from 230 to 192 mg/dl, Triglyceride from 234 to 91 and cholesterol/HDL from 7.60 to 4.12 and the second LRF from 4.1 to 2.4, After 15 days of treatment the patient started walking 2 km in 20 mts. Breathlessness and tiredness totally vanished within a fortnight; low density cholesterol deposited and blocked the vessels is expected to be flushed out as a result of increased HDL the good cholesterol.

Case – 2 : Patient : Mr. A.K. (33)

Mr. A.K. had no ailment or symptom of any kind, He got tested his lipid profile as a routine checkup, but the results indicated that he was under CHD risk. After consultation with the author he started the treatment for Cholesterol Risk Factors I and II. The test results are presented in Table 2.

Table 2

S. No.	Cholesterol Parameters	Starting day mg/dl	6 th day mg/dl	28 th day mg/dl
1.	Total Cholesterol	209.7	208.0	222
2.	Triglyceride	220.3	120.0	194
3.	H.D.L.	36.6	45	52
4.	L.D.L.	129.1	127	131
5.	V.L.D.L.	44	36	28.8
6.	Total Chol./HDL	5.7	4.62	4.27
7.	LDL/ HDL	3.53	2.82	2.52

His first report, indicated that he was under both of the two risk factors as his LRF – I was 5.7, much above 4.5, and LRF – II was 3.52 crossing the limit of 3. High values of risk factors were due to low HDL of 36.6 mg/dl. The treatment was aimed at to increase HDL. Medication was started from 21st

September, 2001. It may be noted from Table 2, HDL increased from 36.6 to 52mg/dl, LRF – 1 decreased to 4.27 from 5.7 and LRF-II to 2.28 from 3.53 on 28th day of treatment. The treatment was stopped after 28 days.

CASE- J: Patient Mr. C.S (42)

The person come to the clinic from a different part of the country for the treatment of his wife for chronic acidity and several other stomach ailments. Incidentally he got checked his own lipid profile. The test report indicated that he himself was suffering from high triglyceride (525.5 mg/dl) So he desired immediate treatment as he had to leave the place for some urgent work after 4 days. The test data is presented in Table -3.

Table 3

S. No.	Cholesterol Parameters	Starting day mg/dl	4 th day mg/dl
1.	Total Cholesterol	184.4	181.4
2.	Triglyceride	526.5	193.0
3.	H.D.L.	47.8	48.2
4.	L.D.L.	31.3	94.5
5.	V.L.D.L.	105.3	38.6
6.	Total Chol./H.D.L.	3.8	3.7
7.	L.D.L./H.D.L.	0.66	1.96

Clinical test results obtained after four days of treatment indicate a fall of triglyceride level from 526.5 mg/dl to 193 mg/dl and an increase of LDL level from extremely low value of 31.4 mg/dl to a normal level of 94.5 mg/dl, maintaining HDL at 48 mg/dl.

Clinical trial reports of the three patients presented above establish the fact that pH-therapy, an alternate system of treatment of chronic diseases like CHD, is a highly powerful tool capable of curing, such chronic diseases for which there is no medical cure in any of the existing systems of treatment except surgery.

Cure of menorrhagia, enlarged uterus and fibroid in women

Since no medicine is available till this day for the cure of Menorrhagia, Enlarged Uterus and Fibroidal growth, patients of these diseases have to resort to hysterectomy, the surgery of the uterus, to save their lives inspite of loosing their capability to conceive.

The author has found that pH-opathy cures menorrhagia, shrinks enlarged uterus to its normal

size and reverses the growth of fibroids. Menorrhagia and its symptoms of profuse or intermittent bleeding, formation of clots, change of colour of blood from bright red to brownish red and abdomen pain, are cured within a fortnight whereas, enlarged uterus and fibroids take a few months to shrink to normal size in periods proportional to their dimensions. Their size may be monitored by Ultra Sound Scanning. The menses of a woman and her conceiving capability remain undisturbed. The author has treated a few dozens patients of menorrhagia and a few numbers of enlarged uterus and fibroids. With the exception of one patient who was suffering from infection and other disorders, all other patients of menorrhagia were completely cured within short period of ten to fifteen days. The medicine shrunk enlarged uterus and fibroids but not a cyst developed in adnexia.

The author is presenting here case histories of two patients both of whom suffered from menorrhagia, one with fibroid and the other with enlarged uterus.

Case 1 : Mrs. Maya (40)

Maya (40) was suffering from excessive uterine bleeding for the past two years. The malady was continuous, all the thirty days in the month, without stoppage. The bleeding was too much, with pain. Uterus sonography report indicated fibroid uterus. She was childless and so desirous of the treatment of the disease without uterus operation. She started the treatment from 26th July 1998. Within one day her pain occurs during bleeding totally vanished without taking any pain killer, within three days clots discharge almost stopped and on the eighth day of the treatment bleeding totally stopped. The treatment had taken hardly nine days for the complete cure of the chronic fibroid type of uterine bleeding and without any side effect.

This patient was also suffering from fibroids. Ultra Sound Scan reports of fibroid are presented in here in Table 4.

Table 4

Fibroid report of Mrs. Maya	
Date	Fibroid Dimentions
02-12-1997	35 x 32 mm
(26-07-1998)	(Commencement of treatment)
10-08-1998	36 x 33 mm
30-11-1998	1.5 mm

The above data indicate that fibroid size had remained same for eight months. But it shrunk significantly within 3½ months from the date of commencement of the treatment.

Case 2 : Mrs. Uma (50)

Patient visited the clinic on 5th August, 1999 for the treatment. She was also suffering from chronic uterine bleeding for a year and enlarged uterus. The treatment of menorrhagia, was started in last week of September, 1999. Chronic uterine bleeding and all symptoms of menorrhagia, vanished within a fortnight. Ultra sound scan report of September, 25th, indicated the presence of large size uterus. The treatment was, therefore followed by monthly checks of the uterus by U.S.S. The results are presented in Table 5.

Table 5

**Ultra Sound report of
uterus enlargement of Mrs. Uma**

Date of Test	Uterus Dimension
25.09.1999	13.5 x 9.0 x 6.5 cm
13.10.1999	12.0 x 7.0 x 6.0 cm
25.11.1999	8.7 x 5.1 cm
12.01.2000	8.3 x 5.2 x 4.3 cm

The reports indicate that uterus shrunk from a large size of 13.5 cm length to normal size of 8.3 cm within 3½ months by pH-opathy.

Treatment of glaucoma by pH-opathy

Glaucoma of eyes is controllable in its early stages by the use of certain eye drops which reduce the pressure built up in the eyes due to the presence of excess fluid. Surgical procedures also help in reducing the pressure in eyes but do not prevent its rise in advanced stages. pH-opathy has been found to improve the eye sight by reversing the glaucoma growth in two patients. Report of one patient is presented here.

The patient Mr. Suresh (64) was suffering from the disease in both eyes for two years. He obtained his field analysis report on 30th July, 2001 just before starting the treatment. He obtained second field analysis report of eyes after five weeks of treatment. These reports are presented in plates 1 to 4. The patient felt improvement in eye sight. Field analysis reports clearly indicate the reduction in the affected regions of the two eyes. The results of the treatment establish the fact that the disease of glaucoma is curable under pH-opathy.

Cure of Urinary Infection

Case 1 : Patient : Mrs. M.B.J. (38 yrs)

Patient visited the clinic for the treatment of urinary disorders mentioned below:

- Frequent urination (frequency) with obstructed flow of urine, associated with a feeling of retention of urine in the bladder.
- Excessive pain in urinary track, felt for about half an hour every time after urination.
- Pricking pain in lower abdomen for three to four times a day.

The patient was suffering from several other ailments which were treated but not listed here. Reports of urine culture were obtained before starting and after a fortnight of the treatment of the patient viz., on 29th October, 2001 and 13th November, 2001 respectively. These reports are presented in Table 1 and 2 respectively.

The first report shows the presence of 1 million colonies /ml of *E. coli* in the culture. These *E. coli* were highly sensitive to a dozen of antibiotics, moderately to seven and resistant to five antibiotics. It may be noted from Table 2 that the growth of *E. coli* totally vanished after the treatment of the patient by pH-opathy. The results of clinical investigations establish the fact that pH-opathy is highly effective in eliminating simultaneously all types of bacteria present in the urine and in curing urine infection.

Table 1

**Urine culture and sensitivity report before
treatment (Dt. : 29th, October, 2001)**

Culture	More than 1 million colonies / ml of <i>E.coli</i> growth in culture.
Highly sensitive to	Netromycin, Norfloxacin, Tobramycin, Magnamycin, Amoxycilin, Cotrimoxazole, Chloromphenical, Streptomycin, Cephalaxin, Gentamicin, Amikacin
Moderately sensitive to	Ciprofloxacin, Doxycycline, Tetracycline, Cloxacilin, Pefloxacin, Sparfloxacin, Oflaxacin
Resistant to	Nalidixic acid, Furadantine, Pipracilin, Cefataxim, Ceftriaxone.

Table 2

**Urine culture sensitivity report after
treatment (Dt. : 13th, November, 2001)**

Grams Stain	No bacteria seen
Isolations	No growth in culture

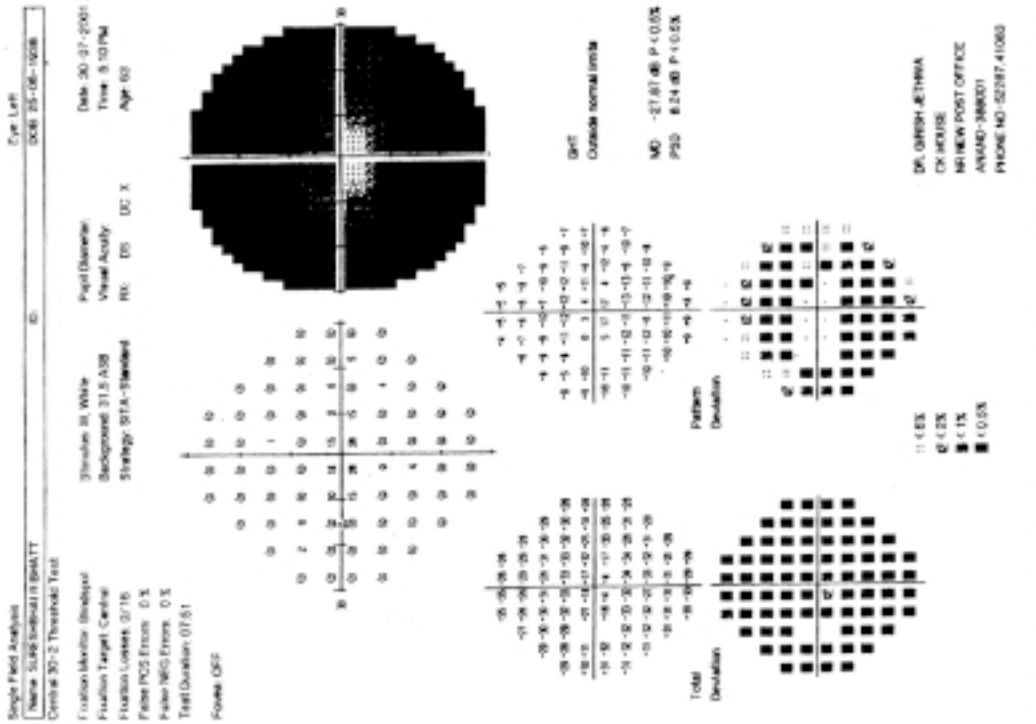


Plate - 1 First Report of Left Eye dt. 30.07.01

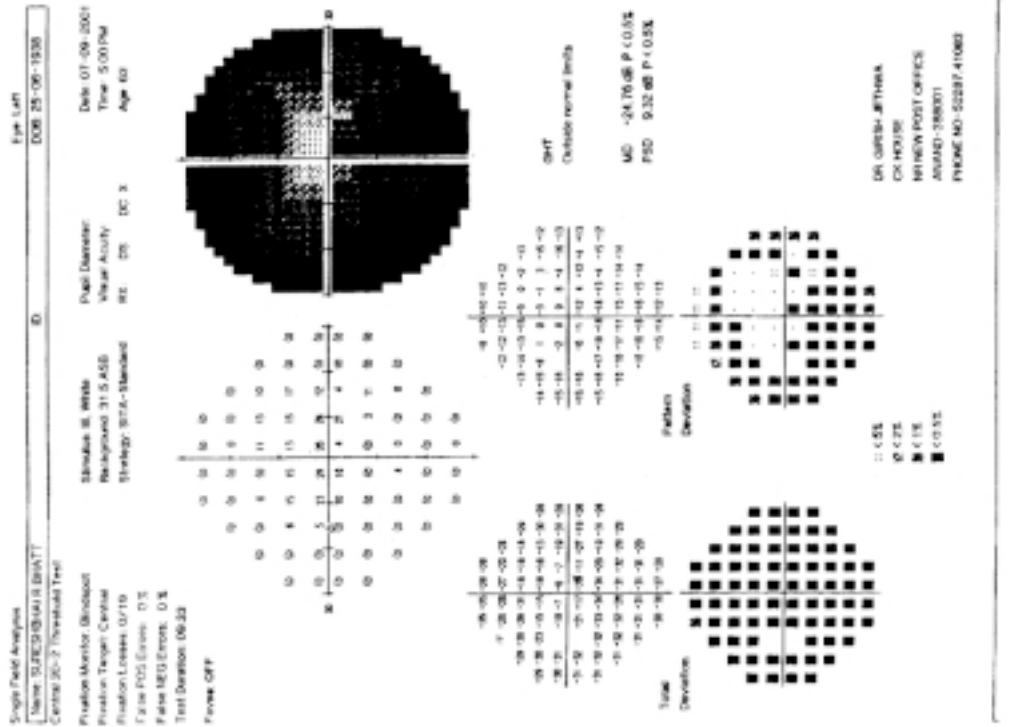


Plate - 2 Second Report of Left Eye dt. 07.09.01

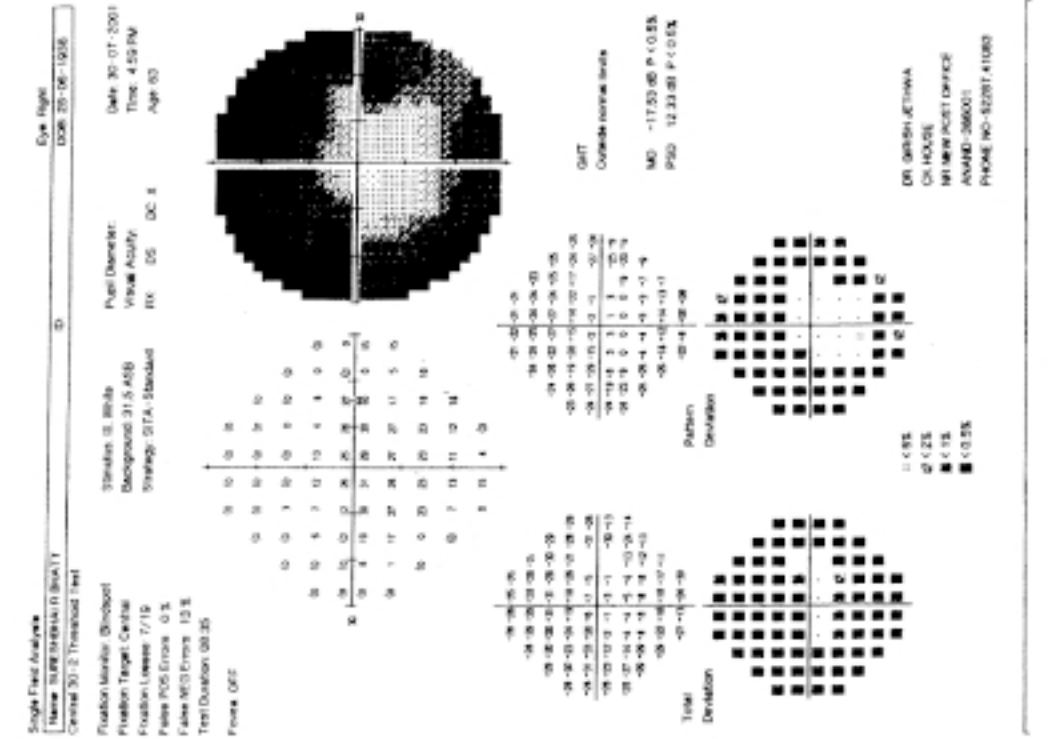


Plate - 3 First Report of Right Eye dt. 30.07.01

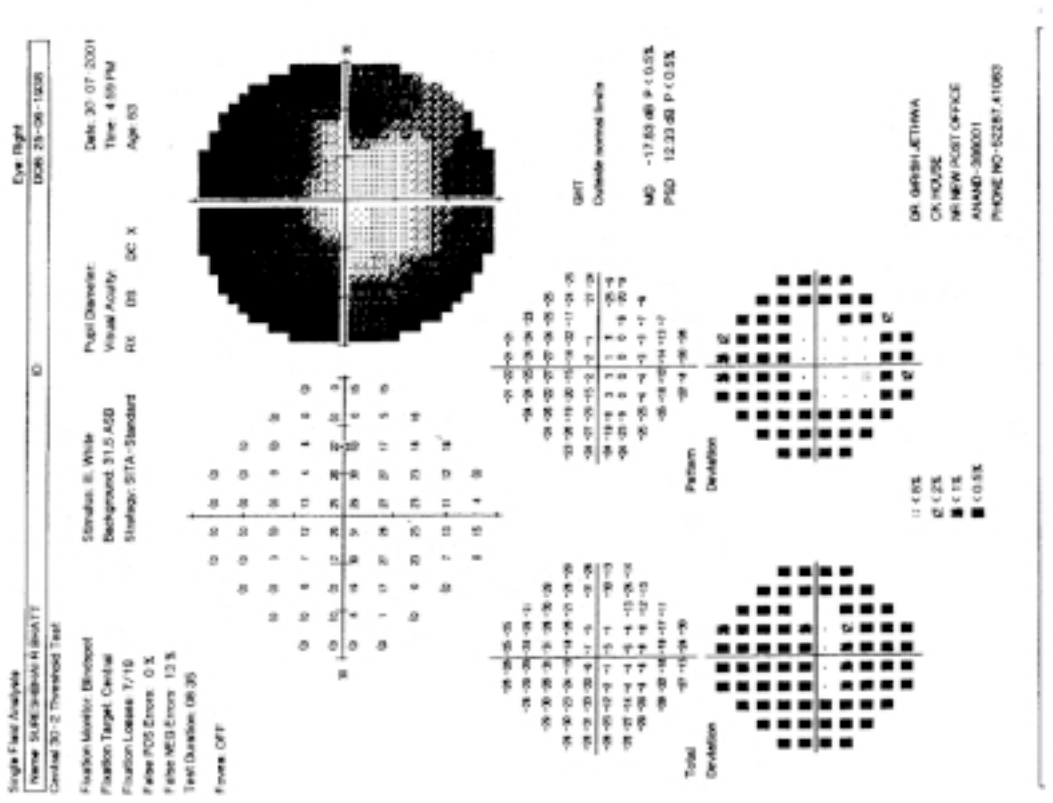


Plate - 4 Second Report of Right Eye dt. 07.09.01

High blood pressure**Case : Mr. G. Kannan (30 yrs)**

The patient underwent hernia surgery. Subsequently he was given several sodium injections. After which his pressure rose to 170/120. He was hospitalized and treated for B.P. medication brought down his pressure to as low level as 110/70 and again rose to same level of 170-160/120. Doctors advised him to continue pressure medicine for life long. After a month's treatment finding no relief, the patient visited our clinic. The treatment under pH-opathy was started. The pressure came down within a fortnight to 120-130/80-85. Medication was stopped after one and half month. Five months after the treatment, the patient reported that his blood pressure was maintaining at the normal level of 120-130/80-85.

Low sperm count**Case : Mr. Shakhtivel (28 yrs)**

The patient was married two years back. His wife didn't become pregnant. So, he visited our clinic for the treatment with a report on semen analysis showing poor sperm count of 30 million/ml and low active motiles (20%), the treatment was started from 22nd August, 2001 and continued upto 8th February, 2002. The results of the treatment are presented in the following Table.

**Table 1 : Semen analysis report
(Date of commencement of treatment 22.10.01)**

Examination parameters	Microscopic		Date of Report	
	20.08.01	02.10.01	07.01.02	08.02.02
Total Count	30 million/ml	35 million/ml	50 million/ml	100 million/ml
Motile (Active)	20%	40%	60%	40%
Motile (Sluggish)	10%	10%	10%	20%
Motile (Inactive)	70%	50%	30%	40%

Semen analysis reports obtained during the 3 months treatment show that total sperm count in semen has increased from 30 to 100 millions/ml and active motiles from 20% to 40%. During the period of treatment his wife became pregnant and gave birth to a male child.

There are a large number of other chronic diseases which have been cured under pH- opathy. A few of them are mentioned below:

- All types of Asthma and associated symptoms have been cured with over 80%

success rate. More than 2000 patients of Asthma have been cured during the past 14 years.

- Diabetes of both type I and II are brought under full control by bringing down blood sugar level within normal limits within a short period of 2 to 3 months. The medicine brings down the blood sugar at a rate of 10 mg/dl to 20mg/dl per day with merely 2 to 3 doses per day, with out the use of allopathic or other medicines.
- Osteo-arthritis, Rheumatoid-arthritis, Back pain and Writers Cramp have been cured by this treatment.
- Male Impotency, Dementia, Peptic ulcer, chronic constipation, hairfall, dandruff and many other diseases have been found curable.

CONCLUSION

pH-opathy is the highest order of Naturo-pathy which reverses the disturbed process of the body and thus eradicates the root cause of chronic diseases and is thus successful in curing Chronic diseases whether they are metabolic, bacterial, hormonal, or of any other type. It eliminates the deficiency of trace materials, such as vitamins, minerals, hormones, antibodies. It can thus, retard the aging process too.

Let us hope that this new system of treatment may bestow profound happiness upon mankind by providing freedom from the clutches of torturous and fatal diseases gripping the masses.

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REFERENCES

1. Crum-Brown, A., and Fraser, T.R., *Trans. Roy. Soc., Edinburgh*, **25**, 151 (1868-1869)
2. Gerarde, H.W., *Ann. Rev. Pharmacol.*, **4**, 223 (1964)
3. Enrich Centennial Symposium, *Ann. N.Y. Acad. Sci.*, **59**, 141 (1964)
4. Wolff. E. (ed.) *Burgers Medical Chemistry*, 4th Ed., Chapters I and II (1980)