Treatment of diabetes by means of water charged with oxygen under pressure / by Dr. Albert Leblond.

TREATMENT OF DIABETES

BY MEANS OF

WATER CHARGED WITH OXYGEN UNDER PRESSURE.

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My intention in bringing the facts which I have gathered before the Medical Society of Paris is not to give a lecture on the nature and origin of Diabetes, as this would lead me too far.

I intend merely to communicate a certain number of cases in which I have succeeded in obtaining complete eradication of glycosuria, and others in which I have noticed a diminution of glycosis, in such proportions that I have not the least doubt of the efficacy of the means which I am about to propose, and which I believe are destined to swell the ranks of the oxydizing agents employed in glycosuria.

The treatment has consisted in making the patients take water charged with pure oxygen. The water is drunk at meals with wine, and the quantity absorbed is about one pint and three-quarters every 24 hours. As the water is tasteless, the patients experience no difficulty in taking it. The water which I have used is prepared by Messrs. Brin & Co., and is bottled in syphons. I insist upon prescribing water oxygenated by Messrs. Brin, because this water differs essentially from the chemical preparation known in laboratories as oxygenated water. Messrs. Brins' water is ordinary water, in which pure oxygen is dissolved by compression. As the tendency of the gas is to disengage itself from the water as soon as the latter is syphoned into a glass, it is advisable to drink the liquid very rapidly, so as to absorb the greatest possible quantity of oxygen.

I have observed in the different analyses of urine which have been submitted to me a notable augmentation of eliminated alcaline and earthly phosphates. This loss of staminal elements has led me to restore to the frame part of these elements, and to that effect I have prescribed to most of my patients the use of a solution of biphosphate of lime.

I will first enumerate the observations made, and then examine what may have been the mode of action of the oxygenated water.

1st Case.—Mr. de B——.

The analysis of the urine was made by M. Dhuicque, chemist.

July 10th, 1886. Amount of sugar, 35 gr. 60 per litre.

Treatment by oxygenated water commenced. Patient does not take any phosphate of lime. He is allowed a moderate use of feculent matters.

August 28th. No sugar.

M. de B—— feels much better, continues the use of oxygenated water, and takes feculent matters freely.

September 16th. Sugar 2·60 gr.

The patient continues to take oxygenated water, but finding the quantity of sugar unimportant, takes feculent matters, and even sugar.

February 27th, 1887. Sugar 2·63 gr.

M. de B—— writes to me on the 25th of March :—"My diet is the same—that is, I take farinaceous food, pastry, &c., like everybody else, but take oxygenated water regularly. I am about to subject myself to a regimen, which shall exclude the taking of farinaceous substances, and we shall see the result in a few days.

2nd Case.—M. E——.

Analysis by M. Godin, Chemist.

March 18th, 1886. Sugar 50 gr. per litre. Patient begins treatment by oxygenated water and abstains from feculent matters.

May 2nd
June 1st } No sugar.
August 4th

Treatment regularly followed until August 7th. From that date patient takes farinaceous matters, and drinks no oxygenated water.

October 13th. Sugar 19·70 gr.

Patient re-commences taking oxygenated water, with the addition at one meal, of a table-spoonful of the following solution :—

Distilled water	... ...	300 grammes.
Biphosphate of Lime	...	6 grammes.

The taking of farinaceous matters is, moreover, discontinued.

November 8th. No sugar.

From this date patient takes a little bread.

December 4th. No sugar.

Patient, who feels well, diminishes the quantity of oxygenated water taken; he estimates this at about half a litre per diem.

February 4th, 1887. Sugar 5·05 gr. Quantity of oxygenated water is augmented, and bread is eaten.

March 18th. No sugar.

3rd Case.—M. J.

Analysis of urine made by M. Beck, chemist. Patient has suffered from glycosuria for years.

January 28th, 1887. Sugar 19·70 gr. Patient drinks one litre of oxygenated water per diem, and takes, in addition, a solution of biphosphate of lime, as indicated *(vide supra)*. Use of bread allowed, but no feculent matters. Patient has been in the habit of taking gluten bread. Patient's tongue dry, he is apathetic, and moves with difficulty.

February 28th. Sugar 5·37 gr. N.B.—Since these results have been communicated by us to the Society a new analysis gave 1·9 gr. of sugar only.

4th Case.—Madame G——.

Analysis of urine made by M. Godin, chemist, March 28th, 1885. Sugar 84·50 gr. Treatment by oxygenated water begun. Biphosphate solution also taken. Patient abstains from feculent matters.

April 13th.
May 22nd.
July 8th.
November 17th.
February 18th, 1886.
July 24th.
November 17th.
March 19th, 1887.
} No sugar.

This patient has made use of oxygenated water and biphosphate of lime in a regular manner. I may remark that this lady's urine has born traces of albumen for some months, which substance we have lately been able to dose.

5th Case.—M. Gall——.

Analysis of urine by M. Joigneaux, chemist, December 29th, 1886. Sugar 62·70. Patient takes oxygen water and solution of biphosphate of lime, but eats bread at meals.

February 15th, 1887. Sugar, 23 gr. Same diet.

March 21st, 1887. Sugar, 34 gr. The diminution of glycosuria is in this case less than in the others. I put this down to the fact that the patient suffers from chronic bronchitis, which restricts the respiratory area, and hinders the oxygenation of the blood in the lungs.

To conclude, we must ask ourselves what may be the action of the oxygenated water thus introduced into the system, and how the sugar in the body is destroyed by coming in contact with it.

It is admitted that glycosis is produced in the system when in a normal condition, but that this product is transformed without being passed with the urine. If the destruction of glycosis does not take place, it makes its way through the kidneys and becomes accessible to our means of chemical investigation.

An examination of the chemical composition of glycosis shows that this substance is composed of $C^6\ H^{12}\ O^6 \times H^2O$. When the system is in its normal working order, the ultimate result of this sugar is water and carbonic acid.

By introducing oxygen artificially into the blood, we may plausibly assume that this gas appropriates a certain quantity of the hydrogen, which enters in the composition of glycosis, with the result of augmenting the production of water to the detriment of the amount of sugar. What leads us to conclude that such is really the case, is that glycosuria increases as soon as difficulty of breathing hinders the oxygenation of the blood in the lungs.