

Diabetes at King's

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The Secretary, Mr. A.D. Wright, first gave a survey of the history of Diabetes Mellitus up to the present date, where I shall start.

I'm glad to see so many faces at King's* that I have known for so long. You don't look much the worse, do you? You look no older than when I saw you last. I wanted to address the students. Whether to call them ladies and gentlemen or boys and girls, I don't quite know. I thought of calling you fellow students of medicine. That is true enough, because the medical profession, at least after its exams, is blessed in one way that in every subject there are new and interesting changes every year, which keeps us elderly people students all the time. So I'm going to call you fellow students. I suppose you will soon be joining the great profession, and getting down to much worse times than examinations. However, I wish you all the best.

Now first I want to thank Mr. Wright and to congratulate him on his good survey of diabetes in past centuries. I must say he's done it in a very interesting way and very clearly. Whether it is all accurate or not, it is not for me to say, because a lot of it is pre-history. But I think your survey was extremely good, sir, and I'm glad you've cleared the way for my more modern history.

I have been asked to talk about Diabetes at King's, and what I've had to do with it. I am bound to be a bit egotistical, but I gather that is what some of you want. I hope, however, I will not be offensively so. Many doctors, after they have developed a disease, take up the speciality in it. In the past, most superintendents of T.B. sanatoria were tuberculous themselves. But that was not so with me. I was studying for surgery when diabetes took me up. At that time I was house surgeon to the E.N.T. Department. This has always been a very famous department for generations at King's, and still is. I think you will agree, and Mr. Cawthorne would certainly agree if he were here. But before the sulpha drugs and the antibiotics, there were very many deaths in this department from mastoids and intra-cranial sepsis. It was my habit, and I think it was a good one myself, although it didn't pay me very well, to go to the P.M. room at night and dissect the trouble that had gone wrong and find out why they had died, and to practise the operation on the other ear. Some people might think this gruesome. I had no time for thoughts

of that sort. At any rate, chiselling away one night, I got a chip of bone in my eye. It went violently septic, and I had to be warded in a side room of what was then V. & A., a special ward. Now for years going past there I've hated to look in at the door because it reminded me there was no good treatment for eye sepsis in those days, except by washing them out and that was a most painful process. Things got worse and worse. I had several operations – punctures for pus in the anterior chamber.

That brings me to the unusual happening. I don't know if they do it in every ward, but the night staff nurse used to teach the probationers how to test urines. They happened to take mine one night, and found it loaded with sugar – a great surprise to everybody. Next day the biochemist, Dr. Harrison, did a blood sugar. It was three times the normal, so there was no doubt I had diabetes, which is probably why the eye sepsis got worse and worse and worse. You mentioned the Allen treatment, I got the Allen treatment all right. Starvation, absolute starvation, until you got sugar free. I believe I got sugar free in a week, but I was not interested in those days in the details of diabetes. Starvation got me fairly sugar free, and the eyes quickly got better. I've only got one eye now, but you can get along very well with one eye as long as it lasts. It's lasting very well, thank you, I'm glad to see my great ophthalmologist – the great Dr. Whittington.

Well, this was a great surprise to everybody as I had been looked upon as a fit sort of fellow. I played hockey and tennis for K.C.H., I believe I was captain of hockey, so I couldn't have looked very ill, and I certainly wasn't. I had no symptoms – no thirst, no polyuria – none of the sort of things we all know about. There was one thing perhaps; whilst studying at night I used to fall asleep far too readily. But, of course, and I think you will all agree here, that is perfectly physiological when you are revising and studying such dull stuff as anatomy. You agree with that. That's not a symptom of diabetes. My God, it's too commonplace for that! It's a student's disease, isn't it? After that I stopped any idea of going in for surgery, and went into the lab., and learned a fair amount about it, and began to study medicine. But whenever I studied hard the tolerance, which was fairly good for a bit, got worse and worse. When I began to read about diabetes and the Allen treatment and the great book of Joslin (because Joslin was the English book which everybody read in those days), and when he said, in the 1919

edition, that by the Allen treatment of starving on a very low diet you might live three years with luck, and in the 1920 edition he said four years with luck, I found that was very depressing. It was quite obvious that when I worked and my sugar got worse, the prognosis was extremely bad. I gave up all thoughts of working hard for exams and medical school life, and wanted a quiet, easy practice, where I could just live as long as I could.

One thing I wouldn't do was to go home and die, with all the anxiety and horrid tension in one's own home. So I set about trying to get an easy life for myself. I was advised by the chief, Sir StClair Thompson, a very famous throat man in the E.N.T. department, that I should go to Florence, and be a general practitioner there. In his earlier life as a doctor he had tubercle, and went there to practise. He got better, and then became this famous man at King's and all over the country. He gave me lots of introductions to people he had still kept up with, saying that there were six English speaking doctors before the first world war and none afterwards. So there was an opening for me he said. So off I set to Florence with a dictionary, a stethoscope, and *Gulliver's Travels* in Italian. That is the best way to learn a language – get a book you know fairly well in English, translated. I wanted to take the Bible, but it wasn't well translated into Italian, and so I thought *Gulliver's Travels* was very much better. I got on fairly well there and I was quite fortunate. I got a good consulting room in the main street, and began to get patients. I was pretty fit, good tolerance, and I was able to play tennis and dance, and things like that, and life wasn't too bad. I think I earned enough money not to use up all my capital. I had a wonderful capital from the first world war – a gratuity of about £500. It makes your teeth water now, doesn't it?

I was pretty fit and well, and enjoying life and the art of Florence, until I got bronchitis. And then downhill as always happens; got full of sugar and acetone; lost weight; got so weak that I couldn't walk upstairs and I would fall down, and altogether things were getting pretty horrid. I would even fall asleep when interviewing a new patient. That tells you how bad I was with the acetone. A new patient in those days to me was a terrific event, and they were not plentiful. There were a lot of English residents there, and travelling English ate most unsuitable food and drank far too much Chianti, and so they needed my attention very frequently.

So I was ready for anything. Dr. Harrison, the biochemist here, a great fellow, wrote to me and said there was something called ‘insulin’ appearing with a good name in Canada – what about going there and getting it. I said no thank you; I’ve tried too many quackeries for diabetes; I’ll wait and see. Then I got peripheral neuritis, and that wasn’t good for doing medicine. And even my cigarettes, I couldn’t get the matches out of the box. It really was pretty nasty. So when he cabled me and said ‘I’ve got insulin – it works – come back quick’, I bundled into my car. I managed to afford a car. It was remarkable. I don’t know how the bank manager gave me the money, but he did. There was an Italian garage man wanting to come with me to see his son who kept a restaurant in Soho. So we set off. A pretty tough journey it was. He funk’d Paris and I had to drive. When we got over the Channel to the ‘wrong’ side, he wouldn’t drive at all.

I landed up at King’s all right one evening, and got a bed in casualty of all places. There was nowhere else to go. Good enough. I had a good sleep. It was not a precoma business, but just exhaustion from travel. I didn’t have insulin that night, because I was going to be a good guineapig and have my blood sugar done before insulin. Next morning (May 22nd, 1923) at 9 o’clock I was along at the lab, as soon as it opened. The technician girl, Miss Taylor, found my blood sugar about 400. Acetone and sugar couldn’t have been more in the urine. Dr. Harrison came at 10, went to the fridge, took out a bottle of insulin, and we discussed in our ignorance what the dose should be. It was all experimental, for I didn’t know a thing about it; neither did he for he had only treated about three people. So we decided to have 20 units – a nice round figure. He shoved it in, and I didn’t feel it at all. I thought that this was nothing compared with all the things I’d had in the war – tetanus and anti-plague and anti- all kinds of stuff. They’re horrid; insulin isn’t, you hardly notice it. It is good stuff. At any rate I had that at 10 o’clock and my urine was tested every hour. I had a nice breakfast that day. I had bacon and eggs, and toast made on the bunsen. I hadn’t eaten bread for months and months, and I did this without feeling guilty. It was really fine, and by 3 o’clock in the afternoon I was quite sugar free. That hadn’t happened for many months. So we gave a cheer, not a very loud one, for Banting and Best. But I didn’t feel any different, neither better nor worse. However, at 4 p.m. I had a terrible shaky

feeling and a terrible sweat and an awful hunger pain. That was my first experience of hypoglycaemia. However, having been sugar free, we remembered that Banting and Best had described an overdose of insulin in dogs. So I had some sugar and a biscuit or two and soon got quite well, thank you. But next morning I was full of sugar again. With the old soluble insulin it had to be given twice a day, and I still think it’s the best treatment ever, but a bit of a nuisance as some people think. However, people who have been very ill and wasted and nearly dead would have had a hundred injections a day if it had made them feel as well as it did.

Then I got a room somewhere nearby and really lived in the lab, and learned a good deal about even biochemistry. There was, of course, every week more insulin available and more diabetics put on it. So there was a great and growing crowd always in the lab. There was hardly any room for any general biochemistry. It was nothing but diabetics sitting about waiting to have blood tests, etc. An awful shambles. So something had to be done about it, and the first requirement was for out-patient teaching. I must say the medical staff were very co-operative and gave us a side-room in Storks. We got a whole-time sister in charge of this diet kitchen, and she fed the patients and taught them diets and injections and all sorts of things. So the thing really got started on a proper basis. But there was still the trouble about too small a lab, to accommodate the out-patients, and the in-patients’ provisions were practically non-existent. I must say the physicians were very co-operative and lent a bed when they could. But you know there were not many beds – there never are enough beds. So occasionally, and they didn’t swear too much, they would turn up at what was an empty bed and find a recovering diabetic coma in it. But this could not go on, of course, for ever, and we decided we must have a good out-patients and in-patients. We calculated that we would need about £20,000 to build a diabetic block, and to equip an out-patient department. It sounded a lot of money, but it wasn’t so difficult to get as I expected. At that time there was a lot of money in London – London was a rich place and there were many rich diabetics who had been rescued from death by insulin treatment, and I had a good many of them as patients. One explained the necessity of this new treatment having new accommodation, and sent them a nice letter and explained it, and said you are very fortunate, you are one of the twenty

men who are going to have the honour and pleasure of giving £500 (most of them became founder members of the Diabetic Association). And they paid up very well, except Mr. H. G. Wells. I don't know if he was feeling a bit hard up, and in any case his diabetes wasn't bad enough to make him too sorry for himself, but he wrote a letter to *The Times* asking for money, and that did very well.

So we got enough money – not £20,000, but enough to start off. At that time, fortunately, the pathological department moved to their new quarters and so the museum was vacant. We bagged the museum and it is still used as our out-patients. All we had to do was to have a bench put in for some biochemistry. Mr. Miller became the chemical technician downstairs. Soon we were having 90-100 patients three times a week, and it has gone on like that ever since. Well, £20,000 was finally raised by an old South African who started insulin in King's, and died and left us about £10,000, which finished up this £20,000 we were needing. So things went on very well after that, and more and more numbers came. Of course we had to get a staff, so we got people interested in diabetes. Dr. Oakley leading the gang, and he still does of course.

We've now got to the present stage of the diabetic department, and it has gone on pretty much the same, and will go on I expect. I don't know how many thousands of people you have now – more and more every year. They won't go elsewhere; you send them to another hospital and they come back again, and with awful tales. I want to take this opportunity of thanking the nursing staff, the medical staff and K.C.H. for all their friendliness and co-operation. After all I came as an outsider, a northern Barbarian, but they fitted me in terribly well and I just want to thank them now. And I also want to say how all my contacts and dealings with the students have been a real pleasure. That's a good one for you students, isn't it?

There is one thing that might interest you. At one time in early 1923 the insulin stabilizing was ex-

tremely bad. Some batches would be nearly twice as much as another. Miller and I used to test new batches before, on ourselves. Thank goodness they soon got a good cross rabbit animal test, so we did not have to function any more. The only serious trouble that I had was when I thought I would try some German insulin. Insulin was terribly expensive for a long time. The only people that got it were us experimental fellows, and the panel patients. If there was any to be bought it was about 25s. for 100 units, which was lately 1s. for 100 units. So when a German manufacturer, for he said he was a manufacturer, came along and offered me insulin at about half the British price, I thought that this may well bring down the British price. So I said let's have some. I took what I thought was the usual dose, one Sunday morning I think it was, set off motoring, and before lunch began to see double, a sure warning of hypoglycaemia. Not a good thing when you're driving, to see two cars or four ditches. I ate my sugar, got better, and had lunch. I thought now that's the stuff finished, because usually the soluble insulin has lost its kick by lunch time. However, this kicked again; I saw double again at about 2 in the afternoon, and fortunately it was near a sweet shop, because I had eaten all my sugar in the morning. So we got out of that all right. When I told the Medical Research Council, they sent somebody out to Germany, found that they were making insulin in a dirty little shed, not even a decent lab., and when they tested it, the M.R.C. said that it was twice as strong as it should be. So we didn't play about with any more foreign insulins. But it did have the effect quite soon of bringing the British price down. Once they had covered their apparatus, setting up new apparatus was of course a very expensive job, they quickly brought the price down. I think that this little bit of use of German insulin, bad though it was, helped to bring it down. Ever since, I'm sure, British insulin is the best in the world, and certainly the cheapest. Great stuff!