

**Summaries of communications at the meeting held on
Wednesday 25th April 1956**

Nephrotic proteinuria: a tubular lesion

T Freeman & A M Joekes [1956]

The differential proteinuria pattern has been analysed by paper electrophoresis in serum, urine and oedema fluid in 6 nephrotic patients.

The protein pattern in the oedema and urine of any one individual is strikingly similar, and in all cases showed a marked percentage increase of albumin as compared with the serum.

The serum/oedema fluid albumin gradient in nephrotic patients is as great or greater than in patients with oedema due to other causes.

The findings are interpreted as evidence for the proteinuria of the nephrotic syndrome being due to diminished tubular reabsorption of protein, without any increase in glomerular permeability. The preferential escape of albumin is thought to be due to a diminished capillary transmission of globulins [increased lipoproteins], are [sic] not due to any alteration in albumin or glomeruli.

Commentary

As the heading shows, this is a summary of a communication written in retrospect, rather than an abstract written in advance to woo the organisers. Perhaps this explains why the methods section is rather coy. How were the six patients selected? Had any interventions been given to modify the sodium and water metabolism of the nephrotic state before these studies were undertaken? [unlikely since there were no effective diuretics at that time]. How did they collect the oedema fluid?

This is a typical observational study of its time – samples collected from small numbers of patients, and subjected to the best available techniques for qualitative and quantitative analysis of proteins.

The information is limited but please consider if you agree with their conclusion that the data support impaired tubular reabsorption rather than increased glomerular permeability as the main driver of nephrotic proteinuria.

And notice how old questions become new questions. Fifty years later the battle lines have been drawn again:

The great majority of us remain convinced that the available data overwhelmingly support the notion that increased glomerular permeability is the dominating mechanism for nephrotic proteinuria, with modification in tubular reabsorption making only a modest direct contribution to proteinuria [although probably playing a major role in invoking the tubulointerstitial injury caused by chronic proteinuria].

On the other hand, there is an iconoclastic minority led by Comper and others [1] interpreting the experimental data as showing that diminished tubular reabsorption is the dominating reason for heavy proteinuria – just as Freeman & Joeke proposed in this paper presented a few months before the Suez crisis.

Mark Joeke, still alive in his ninety sixth year, was a pioneering polymath of a type I suggest we will not see again in our era of increasing clinical and scientific specialisation. As well as this foray into mechanisms of proteinuria, he performed the first haemodialysis for acute renal failure in the UK, the first renal biopsies in the UK, and was the first to apply nuclear medicine to the kidney. He was Secretary of the Renal Association from 1956 to 1961, and also Secretary of the first ISN Congress in 1960 in which the Renal Association was a partner – selected I suspect because he had fluent French, and he had to work with Jean Hamburger from Paris, the first ISN President – *entente cordiale* then as now was the order of the day.

[1] [Comper WD](#), [Russo LM](#) The glomerular filter: an imperfect barrier is required for perfect renal function. [Curr Opin Nephrol Hypertens](#). 2009 ;18:336-42.