Diabetes and Endocrinology Symposium

Wednesday 2nd October 2019

Identifying and managing phaeochromocytoma – Professor Isla Mackenzie

Q. If BP normal already, how do you alpha- block them? BP might drop too much?

A. Even with normal BP, it is usually possible to give some alpha blockade with adequate fluid and salt intake for a patient with a phaeochromocytoma secreting excess norepinephrine (+/- epinephrine). I would favour doing this if possible, under close supervision if necessary when first starting the alpha blockade – and starting with a low dose. A lower final dose is likely to be needed in these patients.

Q. Is max dose for phenoxybenzamine 1mg/kg or you can go up to achieve response?

A. You can increase the phenoxybenzamine to e.g. 1-2mg/kg depending on degree of hypersecretion and patient tolerability characteristics. It is probably best to individualise dose based on the individual patient as all are different and start low and gradually titrate upwards depending on how it is tolerated.

Time to do something different: immunotherapy for type 1 diabetes – Professor Colin Dayan

Q. If immunotherapy proves to have better outcome, then what about its cost effectiveness in low socioeconomic countries? Even in western world where medical cover depends upon insurance.

A. THIS IS ALWAYS A GOOD QUESTION, AND RELATES TO COST BENEFIT AND WEALTH. IN LOW SOCIOECONOMIC COUNTRIES EVEN INSULIN IS TOO EXPENSIVE. IN UK NOW, PEOPLE WITH T1D ARE OFTEN USING PUMPS AND INCREASINGLY SENSORS AT A COST OF £5000-6000/YEAR. IF THIS THERAPY COST £800-£10000/YEAR, BROUGHT TWICE AS MANY PEOPLE TO TARGET AND IMPROVE QOL AS IT REDUCE GLYCAEMIC VARIABLITY...MAY BE THAT WOULD BE ENOUGH TO ATTRACT FUNDING.

Q. Do you foresee this being useful in type 2 management as well?

A. NO, AS THERE IS NO CLEAR AUTOIMMUNE COMPONENT TO T2D AS FAR AS I AM AWARE.

T3 or not T3, that is the question - Dr Peter Taylor & Dr Kristien Boelart

Q. If 90-85% benefit T4 treatment, would it make sense to believe that there are other pathologies in these small group of patients , leading to symptoms?

A. Great question, there is a view that it might be something else, sometimes the thyroid isn't the cause of symptoms I have screened for other conditions including hypercalcemia and Addison's, but have rarely found anything. I think it is more likely that in those symptomatic it would be difficulties in coping with lower T3 levels and the fact that T4 may lead to lower intracellular T3. The Cardiff experience is 2/3 of those on T3 feel restored to normal/near normal so of that 10-15% potentially 1/3 may have another cause, but we don't find usually another obvious condition, although some do end up and feel better on anti-depressants.

Differential diagnosis of diabetes – the use of c-peptide, genetics and other biomarkers – Professor Katherine Owen

Q. If someone already on insulin therapy does it affect c peptide level?

A. One might think it would because exogenous insulin reduces blood glucose level and thus reduces endogenous insulin production. However in practice blood glucose in diabetes is usually above the threshold for insulin/C-peptide secretion to occur, so if we are just looking for presence or absence of c-peptide to distinguish from T1D then the precise amount is not a problem. It is important to do a paired glucose to ensure that BG is >4 mmol/l when the C-peptide is measured, or to send a post-meal urinary C-peptide sample.

Q. What's the risk of developing diabetes in ABCC8 mutation?

A. I don't think we have the data to know the answer to this, and it may depend on the functional effect of specific mutations, as well as individual factors. ABCC8 can clearly cause a range of phenotypes including permanent neonatal diabetes, transient neonatal diabetes and MODY-like and this varies both between and within families. As seen in the family I presented, we also observe normoglycaemia in older family carriers. If I was counselling an unaffected family carrier of a mutation, I would say that the risk of developing diabetes in their lifetime was high and they should have annual diabetes screening.

New developments in osteoporosis – Professor Stuart Ralston

Q. Can we use bisphosphonates in Charcot Foot disease?

A. Bisphosphonates can't be used in CKD. The lower limit of normal for eGFR is 30 and that is for risedronate. Denosumab can theoretically be used since it isn't cleared by the kidney but there is a very high risk of hypocalcaemia with Dmab in CKD. I would not advise it.

Q. For ckd patients, which one better and safer?

A. Charcot. There is no evidence that BP's are beneficial in Charcot foot. That doesn't mean you cannot use them; it just means you don't know if they are effective.

How do I manage someone with diabetes and a hot red foot – Dr Anthony Coll

Q. Why Charcot Foot has paradoxical pain when they are already neuropathic?

A. I am not sure that there is much of a paradox. A neuropathic foot is not necessarily the same as an anaesthetic foot (but which I mean wholly insensitive to pain). There may be good going sensory motor neuropathy but still the ability to appreciate pressure and discomfort, albeit hugely diminished compared to a foot with an undamaged neurological supply. Consider the pain and discomfort seen in a "typical "foot fracture and then consider the amount of pain you might see in a person with a Charcot foot in which multiple bones may be affected and the foot is tight, tense and swollen. In the latter the magnitude of the inflammatory syndrome is so much that even with the elevated pain threshold of their neuropathy, a patient will report pain.

Q. How frequently we face Charcot Foot in single joint?

A. Difficult to be precise here- so hard in the absence of clear, specific and sensitive markers of disease- radiological or otherwise. I am sure it does occur but may not even present that much clinically. Of course, if that single joint it the knee then it can present in a dramatic fashion; always worth considering CN if a patient with previous clear history of CN in their feet presents with a red hot swollen knee.

Q. Any role of biological treatment in Charcot Foot?

A. As mentioned in the talk- watch this space. There are data emerging form single site, observational studies – see for example https://doi.org/10.2337/dc17-1517. More to come.

Q. How can we differentiate Charcot Foot from DFO on imaging especially on X ray?

A. I assume DFO is Diabetic foot Osteomyelitis. Do not rely on the imaging to tell you all the answers but use it to inform your clinical suspicion. In particular, if there a clear break and ulcer on the skin which is contiguous with the affected bone beneath, much more concerning then for osteomyelitis as the infection will have come from contiguous spread. In contrast, if the areas on affected bone and soft tissue are some way distant from ulceration or there is /never has been any areas of ulceration or break in skin at all, then osteomyetlitis much less likely. Also, be kind to your radiology colleagues and give them all the relevant clinical retails about sites, depth and appearance of ulcers- will greatly improve their ability to give you an informative report.