RCPE Casenotes: Past & Present Podcast - Rheumatology Transcript

Narrated and curated by Dr Daisy Cunynghame, heritage manager and librarian at the Royal College of Physicians of Edinburgh.

[introductory music]

Welcome to the Royal College of Physicians of Edinburgh's Casenotes podcast. Over the next few months we're going to delve into the different physician branches or specialties.

Just to start off with, what is a physician? Most people know what a GP is, and what a surgeon is, but not everyone knows exactly what a physician does. Well the formal description is specialists in internal medicine, so diseases and complaints that happen inside your body. And even if that sounds unfamiliar, you have almost certainly heard of a lot of the areas that this covers, like cardiology, diabetes, allergies, palliative care, infectious disease and neurology. These are all branches of medicine, or specialties, that physicians are responsible for.

In each coming episode of Casenotes we will pick one of these specialties and delve into its history, looking at its development over hundreds of years, and some of the interesting stories and cases from the past. We'll also talk to a current physician working in that area, to find out what it is like to be working as a specialist physician in the twenty-first century.

[musical interlude]

In this episode of Casenotes we're looking at the past, and present, of rheumatology. We'll be talking in a bit to Dr Frances Williams, but we're going to start by delving into the history of rheumatology.

Rheumatism is, historically, a particularly complicated disease. The term has been used for hundreds of years, but often in very different ways. In the eighteenth century, while a disease of the joints, like today, it was most often associated with people in their twenties and thirties, and was seen by most physicians as only very rarely affecting the elderly.

There is a really fascinating survey of Scotland, compiled in the 1790s by the Scottish politician Sir John Sinclair, called the *Statistical Accounts of Scotland*. In that, Sinclair described rheumatism as the most prevalent complaint in cold and wet climates such as Scotland. According to his findings, the number of cases of this condition had increased significantly over the previous seventy or eighty years. Rheumatism by the late eighteenth century was, according to Sinclair, a common condition in every parish in Scotland, both rural and urban.

There are a couple of reasons why we should take Sinclair's opinion with a slight pinch of salt. Firstly, rheumatism was both a medical and a colloquial term. Physicians used it when diagnosing patients, but people would also describe themselves or members of their family as having rheumatism or being a bit 'rheumatic' when they had some sort of pain. One historian, William Copeman, actually said that medical terms such as rheumatism were "useful verbal rubbish heaps", to which many otherwise undiagnosable conditions could be consigned.

Secondly, rheumatism almost had a strange sort of pride attached to it. If you suffered from rheumatism that meant you were not workshy – you worked hard, and in difficult conditions. One medical pamphlet from 1776 described rheumatism as a condition of the "sober, industrious, and useful part of mankind".

The rise of the use of the term rheumatism in the eighteenth century also meant a rise of both physicians and quacks ready to offer cures. The Scottish physician William Buchan, in his popular text titled *Domestic Medicine*, which was first published in 1769, recommended a range of treatments, including the eating of roasted apples, weak chicken broth and stewed prunes, as well as bathing in celebrated spa towns such as Buxton and Bath. Newspapers in the eighteenth and nineteenth centuries were scattered with treatments, including Keighley's "Infallible Tincture for the Rheumatism", Jones's "Rheumatic Tincture" and Black's "Chemical Rheumatic Pills".

While there were believed to be many causes of rheumatism, it was most often associated with exposure to cold. Sinclair, in his *Statistical Account*, blamed it particularly on the tendency of manual labourers to continue wearing the same clothing if they had become wet. Sinclair

also lamented that people often wore linen rather than flannel clothing, as linen, he believed, did not let the body breathe naturally.

Sinclair also blamed people's living conditions, particularly, as he described it, the "miserable, cold, and damp huts, in which the poorer classes reside". And actually he argued that many activities of the poor were causes of rheumatism, from workers "sitting down to cool themselves when over-heated" rather than "keeping themselves, for some time, in motion", to labourers quarrying stone in their undershirts. Those who were employed indoors were not immune and individuals who worked as weavers and in similar trades were believed to be susceptible due to a lack of exercise in the fresh air.

So there was a strong association between poverty and rheumatism. Although certainly not exclusively a disease of the poor, a connection was frequently made between the lifestyles of the poor and the causes of this complaint. It's hard to see how you could avoid it when there were so many causes - too much fresh air as well as too little, moving from a cold temperature to a hot one, both manual labour and sedentary work, the wearing of poor quality clothing and not having enough changes of clothes, eating an unhealthy diet and living in a cold and damp climate. It is clear why poorer members of society would have faced difficulty in protecting themselves from such a disease.

The relationship between social status and rheumatism is really stark when we look at another disease - gout. Rheumatism and gout were seen as having similar symptoms during the eighteenth century, but there were certain identified differences. Gout was considered to be hereditary, while rheumatism was not. Gout was believed to move around a person's body, described as "flying gout", while in rheumatism it was viewed as static. A major difference, though, was the gender and wealth of the sufferer, because gout was viewed predominantly as a disease of wealthy men.

In one case from the Edinburgh Public Dispensary in 1785, Ann McNicol was admitted into the dispensary with violent pains of the joints, particularly in the elbows and knees. According to her physician's notes, there was "no room for doubt" in the diagnosis of her condition. McNicol, a forty-year-old married woman, was employed in spinning textiles and as a wet nurse. Although the dispensary's notes detailed the difficulty of

distinguishing between rheumatism and gout, in deciding on a diagnosis it was “suffic[ient] to observe, that [the] patient is female & one of [the] lab[ouring] poor”. It wasn’t her symptoms that told the doctor what disease she had, it was the fact that she was both poor and a woman that was the basis of her diagnosis.

[musical interlude]

Daisy: So welcome to the podcast, Dr Frances Williams. I was just wondering if we could start off by just you telling us a bit about yourself and where you work, that kind of thing.

Frances: Yes, thank you, my name’s Frances Williams. I’m a professor of genomic epidemiology and a practising haematologist at Guy’s and St. Thomas’s hospital in London.

Daisy: Thank you very much. So just to sort of start with the absolute basics, how would you define rheumatology?

Frances: Rheumatology covers a multitude of different conditions, basically lying within bone, muscle and soft tissue disorders. It’s very varied and it encompasses not only degenerative conditions of ageing but also inflammatory disease.

Daisy: Well look, my next question is a bit of a horrible one, because it’s almost an impossible question. I imagine there isn’t just a typical standard day in the life, of every day being the same, but can you give me sort of an example of what you might do in a typical or a common day in your work?

Frances: Well I have quite a broad practice which is fairly unusual to other people’s. So many rheumatologists specialise in inflammatory conditions like rheumatoid arthritis, and while I see some patients with rheumatoid arthritis, I also see quite a lot of degenerative conditions, and I run a clinic at St. Thomas’s for musicians and performing artists. So I see very interesting people of all ages from young students to post-retirement age individuals, who enjoy music and enjoy playing, and have soft tissue problems and chronic pain related to playing that I try and help them with.

Daisy: So looking at kind of where you are now, what was the light bulb moment that drew you to rheumatology, why have you specialised in this particular field of medicine?

Frances: I think there wasn't really a light bulb moment. When I was doing my junior medical training I loved every specialty that I was attached to, so depending on where I was in the training I had plans to become a neurologist, a renal physician, but rheumatology overlaps with many of these conditions, those specialties, in some way or another, and I was drawn to it particularly because of the variety of patient ages. So it might surprise people to know that inflammatory arthritis can attack children as well as older people, so all ages and stages are seen in the clinic, and we have this very varied presentation from acute life-threatening conditions, rare conditions that we have to be able to recognise, to the chronic long-term conditions like rheumatoid arthritis or osteoporosis that means we have a relationship with patients spanning many years or even decades, which I also enjoy as well.

Daisy: Thank you, so I suppose following on from that, you know, you've talked a little bit about the variety of patients who come to you for help and for treatment. Are there any particularly sort of standout interesting cases that you can think of, obviously sort of veering on the side of data protection where we don't give away, sort of, personal details, but are there any sort of, unusual situations or cases that you've come across?

Frances: Well there are, there are too many to list individually, but there are very interesting conditions that mimic other conditions which are particularly challenging to diagnose and therefore very interesting. So we have things that can present like tropical infections, which means that we work closely with infectious disease physicians, and there are conditions which can also mimic cancers. So the other interesting aspect to the role is in helping young women through pregnancies with inflammatory conditions, because many of the drugs that we use to treat inflammation are not compatible with pregnancy, so we have to offer pre-pregnancy counselling and advice on how to optimise treatment as best we can before people become pregnant. So it means we really offer a whole life course type of service which I find particularly enjoyable.

Daisy: OK, so I suppose the future of rheumatology is going to be particularly relevant for the next generation of rheumatologists, and I

was just thinking, you know, there might be people listening to this podcast who are at school thinking about studying medicine, or are studying medicine and thinking about different specialties. So if anybody's listening to this who might be considering a career in rheumatology, is there anything you would suggest as a preparation or a starting point to get into your specialty?

Frances: Yes I'd recommend it without hesitation, it's a wonderful career choice. I think some students are readily swayed by the availability of all our clever imaging techniques, and what I would say to a student starting out is to remember that getting really, really good at the basics is absolutely essential and will stand you in very good stead. So getting good at taking a history, and doing the clinical examination of all the systems, means that you won't need to order so much imaging and it becomes much more rewarding as a career.

Daisy: Thank you very much. So another thing I wanted to ask you is, what do you think is the biggest advancement or kind of most significant moment in rheumatology, so this is sort of in history, but also in the sort of more recent history, I suppose. What are the crucial moments?

Frances: I think there are two that I'm really aware of, and that is the big breakthrough that came with the discovery of tumour necrosis factor or TNF, and the invention of anti-TNF treatment using antibodies. This has revolutionised the way we treat rheumatoid arthritis and other inflammatory arthritides. On the osteoporosis side, there are drugs called bisphosphonates which are very widely used now, they're incredibly safe and have reduced the rate of fracture by about a third in people that take them, and this will undoubtedly have saved lives.

Daisy: OK, and sort of following on from that, is there any sort of person or people that have particularly inspired you, so this of course could be somebody from ancient Greece or Rome or it could be someone again in your lifetime. Are there sort of key figures that you think of?

Frances: I think I would come back to the anti-TNF discovery, which was made at the Kennedy Institute in London, so not in my workplace but down the road. I think the way they identified TNF and designed the monoclonal antibodies which are now used to treat inflammation all round the world is absolutely inspiring.

Daisy: Thank you very much, so I'm getting into the sort of more trickier or sometimes sort of impossible questions now, because I realise that the way different specialties work there isn't always an object, but what I'm really interested in is, if we were going to make a sort of, a museum of the medical specialties, and if we had one object for each medical specialty to sort of represent how you treat patients or how you diagnose patients, what would the object for rheumatology be?

Frances: I think it would have to be a needle and syringe. So going back in history, the ability to draw fluid off an inflamed joint and look at it under a microscope was a tremendous advance in identifying the inflammatory cells that build up in the joint, and also at identifying the urate crystals that are present in a gouty joint, and differentiating rheumatoid arthritis from gout was historically very challenging and a big step forward when it was realised that these look so different under the microscope. So I think that single item would have to be a needle and syringe.

Daisy: Thank you very much. So in terms of what it takes to be a rheumatologist, so casenotes or good casenote taking, as you said, but are there any other skills or attributes that you think are particularly important to your specialty?

Frances: Well, clearly being able to examine a joint well is really critical. So a recognition that it's not just a joint with a capsule around it, but also the ligaments and tendons that move that joint and support that joint, and being able to identify all the different soft tissues. Using your fingers I think is a great skill, and it leads on to being able to accurately place a needle in a joint and withdraw the fluid as I've just described.

Daisy: Thank you. So my next question, my final question is the question that it's impossible to avoid at the moment. So we're talking on the 20th of January 2022 and of course coronavirus, so what I'm interested in knowing is how has the COVID pandemic affected your work, has it changed it in significant ways?

Frances: Well it's delayed my research very much and I've missed going into the department to work amongst friends and colleagues. But from a clinical perspective, many of my appointments have been changed to the telephone and in many ways I think this has forced a necessary advance in our service provision, that we won't be going back to the

same old ways of having people travel into central London on a regular basis. We need to be much more flexible at seeing people when people need to be seen - when that joint flares up they need to be able to come and see us, it shouldn't be every three months, every six months, every twelve months, and being able to check in with people very rapidly on the phone. And it will allow us to hopefully build a much more responsive service that allows us to check in with those people that are well and make sure that they're having their blood tests or whatever, but more importantly bring up the people who really need to travel into central London to be seen much more quickly than and responsively than previously.

Daisy: So with these changes you've talked about, and particularly as you say, you know, where it isn't necessary to see someone in person, seeing them remotely, do you think these are going to be, you know, permanent changes, in two years' time or five years' time?

Frances: I think, I mean the degree to which that happens will vary, but certainly it will. We had started to use telephone clinics before the pandemic, but I think it has probably pushed many practising rheumatologists to do much more on the phone because patients prefer it. You know, there's always been this sort of slight Victorian arrogance of doctors to demand patients come to them. We should be much more responsive to the needs of our patients, and patients on the whole are very busy people, and they don't wish to spend half the day flogging around just to have a ten minute consultation, it's not a good use of anybody's time. So we will I'm sure become a much more responsive service and hopefully more agile in meeting our patients' needs.

Daisy: So before we just finish up here, what have I missed? Is there anything that you'd like to talk about or anything that's sort of really relevant that I haven't thought to ask you?

Frances: Well one of the things you mentioned was the important tool or item and I think the other thing - because we no longer as rheumatologists walk round clutching our syringes, because we use the help of our radiological colleagues to image the joints before we stick needles into them - so I think what I would say is that being able to sit and listen is a really critical skill that is perhaps overlooked when you first start and you want to rush in and examine and get hands on. But

actually as you get into your career and you have more experience and hopefully wisdom, you realise that actually just sitting listening to the patient will tell you almost all that you need to know.

Daisy: That's fantastic and thank you so much for joining us today, Frances.

Frances: It's been a pleasure, thank you for the invitation.

[musical interlude]

For our case study, we are going to look at a famous painting. Rubens' *The Three Graces*, dating from 1638, has been argued to be an early example of an illustration of rheumatoid arthritis. According to this theory, the fingers on the Grace on the far left of the painting are flexed and extended in a way which is indicative of rheumatoid arthritis. The argument goes that Rubens was such a good artist, this could not be a mistake, it had to be intentional. Perhaps the model sitting for Rubens suffered from rheumatoid arthritis, or perhaps he chose to portray her as suffering with this disease for personal or artistic reasons.

This analysis, a process commonly known as retrospective diagnosis, has been applied to many famous paintings and figures from history. Whether based on diary entries, illustrations or letters, it commonly involves studying a person to identify which modern twenty-first-century disease they are supposed to suffer from, often a very popular and headline-catching approach to medical history. Hardly any figure from history, whether Mozart, Napoleon, King George III or Jane Austen, has escaped this appraisal.

The whole idea of retrospective diagnosis, however, is one which makes medical historians very uncomfortable. There are all sorts of reasons why this is problematic. Firstly, how truthful is the historical record, whether it is painting, a journal or a letter? There are all sorts of reasons why its creator would exaggerate or fabricate their experiences - to create a better piece of art, to impress their friends, or to gain sympathy from their audience. Perhaps the Grace's damaged hand is an artistic mistake or a symbol or allegory, or perhaps she did suffer from a disease but just not rheumatoid arthritis, perhaps gout or a broken finger.

Retrospective diagnosis is also contentious because it uses modern, current disease categories. It seems to assume that while terminology in the past was sometimes imprecise, and constantly undergoing change, but our current definitions are static and definitive. We only have to look at disease classification from a few decades ago to see the inclusion of homosexuality as a recognised disease, to know that this is not the case.

But the biggest problem with this approach is that it stops us from understanding history in its contemporary context. What did it mean to be ill or in pain in the 1700s? What did having a disease do to your life? If we look at diseases of that time on our modern terms, we aren't considering the different terminology, different experiences and different ideas of those at the time. So it gets us no closer to knowing what was the actual experience of the historical figure and stops us from acknowledging that the terminology and classification of disease is a human construct, as much now as it was in 1638 when Rubens completed his painting.

[musical interlude]

Thank you for listening to this Casenotes podcast. If you'd like to find out more about the work we do you can visit our website at https://rcpe.ac.uk/heritage. You can also find us on Twitter @RCPEHeritage. And we have a JustGiving page – https://www.justgiving.com/campaign/rcpeheritage – linked to on our website if you'd like to support our work and help to fund future podcasts. Thank you.