

Changes in Rheumatology in my professional lifetime (1975-2016)

Change is constant and inevitable, and often beneficial

The Consultant ward round....as was.



The Way We Were

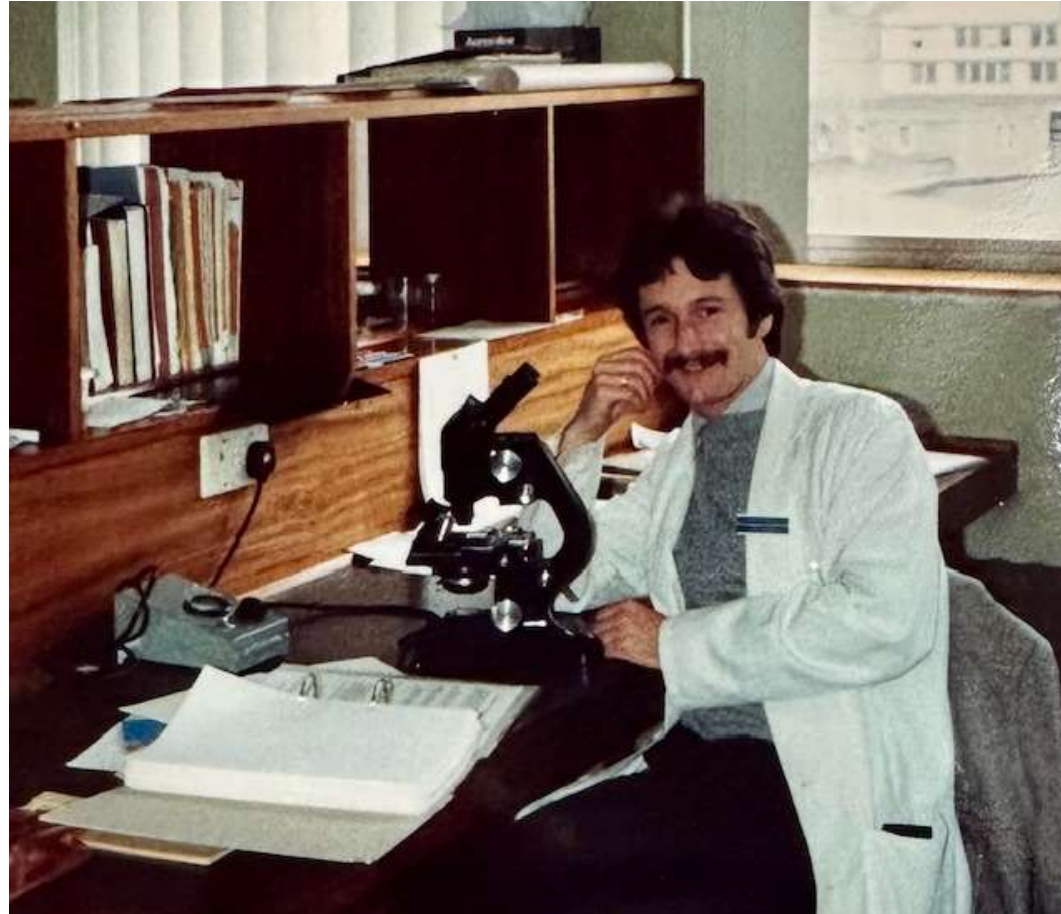
- Doctor in The House (Richard Gordon): Consultant in suit, cufflinks
- Junior doctors were usually males in (off-)white coats, ties, bow ties
- Stern Matron, and junior nurses in Victorian uniforms with paper hats
- Long, 22-bed Nightingale wards with smoking room at the end
- Restricted visiting times, poor quality food with little choice
- Prolonged stays: 2-3 days for carpal tunnel decompression, a week for post-partum recovery, 3 weeks for a slipped disc, 10 days in bed after a heart attack
- General anaesthesia for most surgical procedures

Those were the days, my friend.....

Matrons, Ward Sisters, SRNs, SENs, auxiliary nurses, ward clerks (all female)

- Junior doctors usually male, white, often privately educated
- Resident Housemen lived in at the hospital in Doctors' Mess, many with licensed bar
- Typical rota: On call one night in two, one weekend in two, prospective cross cover for annual and study leave
- Hospital shows at Christmas and occasional "ash cash bash"

Then and now



Portrait of the artist as a young man



Nightingale Wards



Oo er, Matron!



A modern ward round



A modern ward round

- Unlikely to resemble a teaching ward round as I knew them: Consultant, Senior Registrar, Registrar, SHO, Junior HO, medical students, Ward Sister, SRN +/- SEN, student nurse(s)
- Now: Consultant or Senior Training grade (ST3), Specialty Registrar, Foundation Year (FY1 or 2), a nurse (Sister or Staff Nurse)
- No starting at bed 1 and finishing at bed 22. Time compressed visit to selected patients, no writing in notes or looking at x-rays
- No all day ward rounds. Very decision-focussed. Consultant may have patients to see in numerous wards

Modern hospital room



A modern hospital “ward” or room

- No squeaky bedspring beds: modern standard beds 1.5-15 K pounds
- Patient-controlled electronic adjustment: height, backrest, knee bend
- Piped oxygen, not portable bottles
- Numerous electrical points
- Noisy monitors, poor acoustics
- Better and more numerous toilet facilities
- Longer visiting times, but no flowers allowed
- No x-ray boxes, no mercury sphygmomanometer/thermometer

Now and then: records, results and x-rays

- Back Then: volumes of paper notes/letters/results/nursing notes/temperature charts/anaesthetic records: chronic illnesses worst. Heavy notes trolleys in every ward.
- Heavy x-ray bags, often ripped and sellotaped: very hard to find relevant/recent films. Back-lit X-ray viewing box in every room.
- Lab and x-ray results stuck into notes: haematology, biochemistry, etc
- Hand-written entries often illegible, pages often missing or misfiled
- ESR tests, urine tests, cardiac enzymes, Anti-dsDNA antibodies to crithidia lucilliae flagellum

Modern record keeping: computers

- Radiology: accessed via PACS on desktop computer (Patient Archiving and Communication System)
- Bloods taken by phlebotomists, results on computer and tablets
- “bleeps” replaced by phones
- Entries in “casefile” made by typing or voice-activated software, no handwritten records
- IV line cannulae inserted by ward nurses or venous-access nurses (sometimes with ultrasound guidance)
- ESRs, urinalysis, cardiac enzymes (counter-mounted manual centrifuge)

All our yesterdays

- Carry on Doctor
- Emergency Ward 10
- Dr Finlay's Casebook
- Dr Kildare, Marcus Welby MD
- Ask the Midwife
- Health Visitors (Green) and District Nurses (Blue) on bicycles
- GPs mostly male, nights and weekends on call, obstetric care with home deliveries and minor surgery

And all our todays.....

- Casualty and Holby City
- Jimmy's
- ER
- House
- Grey's Anatomy
- Scrubs
- The Resident (currently on Netflix)

“Rheumatism”

- Rheuma is Greek word for stream/flow
- “rheum” is any thin liquid from the eyes, nose or mouth
- Shylock: “you vent your rheum upon my beard” (spit)
- Rheumy eyes (watery)
- The River Rhine; rhyne/rhine/reen.....drainage ditch
- Rendall: parish in Orkney (valley of the stream)
- Secretions worse in winter, as are many aches and pains
- Hence pains became “rheumatic”

Rheumatoid Disease/Arthritis: 1975

- The Edinburgh Regime (Prof Duthie)
- 6 weeks hospital admission
- 2 weeks strict bed rest in POP splints, steroid injections of worst affected joints, commence gold injections, D-Penicillamine or hydroxychloroquine
- 2 weeks passive mobilisation of joints
- 2 weeks of physio/hydrotherapy

DMARDs/2nd line agents in RA

- IM Gold: sodium aurothiomalate. Heavy metals used to treat chronic infections, and RA long suspected of being an infection
- Mercury, copper, antimony, arsenic used to treat, eg. Leprosy, syphilis
- D-penicillamine: chelates copper (Wilson's Disease) and has some effects on immune system
- Hydroxychloroquine (Plaquenil): less toxic than chloroquine. RA seen to improve when colonial employees took chloroquine for malaria.
- Sulphasalazine: invented 1940. Combination of sulphapyridine and anti-inflammatory (5-Aminosalicylate). Still based in RA as possible infection.

Early treatment of RA

- anti-inflammatory agents: aspirin (ASA,1899), indomethacin (1963) phenacetin (1887-1983. See also Askit Powders)
- Ibuprofen (1969).
- RESULTS: dreadful! Peptic ulcers (no PPIs), kidney damage, tinnitus, hypertension
- Gold and penicillamine: rashes, kidney damage, blood disorders
- DVT/pulmonary embolism from inactivity

Long term outcomes in RA

- Ongoing erosion and destruction of joints, deformity, disability
- Atlanto-axial subluxation in upper cervical spine
- Rheumatoid nodules over elbows, knees, ankles
- Rheumatoid vasculitis: inflammation of small arteries, gangrene, skin ulceration
- Surgical fusion of joints to ease pain (arthrodesis), excision of eroded bone, and early joint replacements
- Significantly shortened lifespan with much loss of function for employment and enjoyment
- Numerous serious side-effects of treatments

Rheumatoid Vasculitis



Rheumatoid nodules and vasculitis



Subluxation and dislocation of MCP joints



Figure 1: severe joint deformity in Rheumatoid arthritis.

Rheumatology Wards and Hospitals

- Aberdeen City Hospital: 40 in-patient beds for rheumatic diseases (now closed)
- Rheumatism Foundation Hospital Heinola, Finland: 1951-2010
- 360 beds for rheumatic diseases and their surgical treatment (now closed. Bankrupted by modern treatments for arthritis)
- Droitwich Rheumatology Centre, St John's Hospital. 112 beds (now closed)
- Royal National Hospital for Rheumatic Diseases (formerly Royal Mineral Water Hospital, Bath. 1738): 100 in-patient beds (now closed)

Rheumatism Hospital in Heinola, Finland



RNHRD, Bath



“The Min”



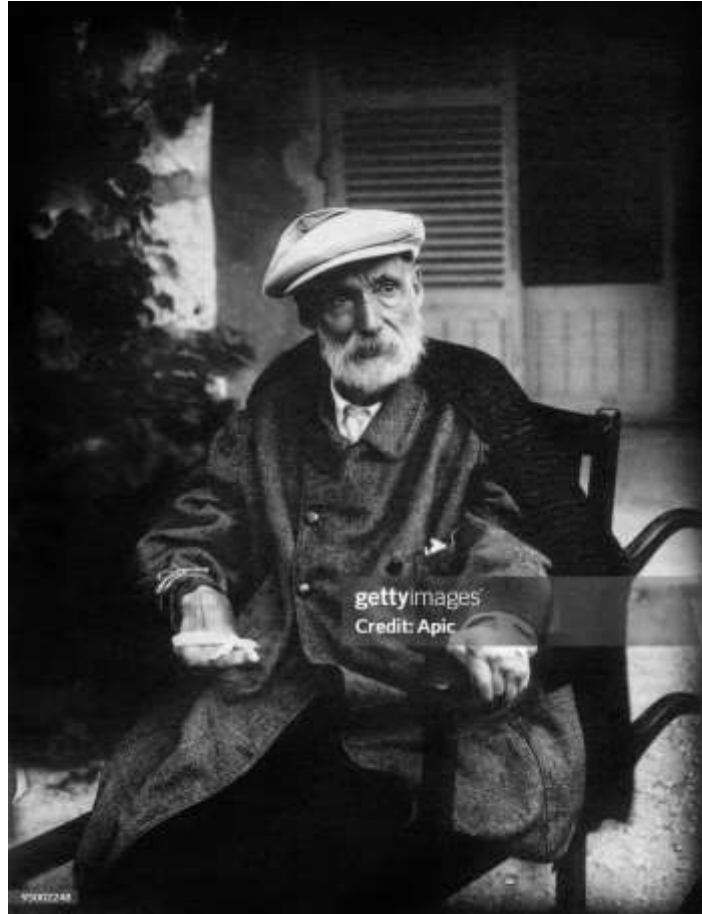
Rheumatic Diseases

- Inflammatory conditions: Rheumatoid Disease (or arthritis)...1% popn
Psoriatic Arthritis (Dennis Potter, The Singing Detective)
Enteropathic Arthropathy (Crohn's, Ulcerative Colitis)
- Ankylosing Spondylitis (Mike Atherton), reactive arthritis (SARA, post-diarrhoea: "Reiter's Syndrome"), Behcet's Disease (silk road)
- Vasculitides: Churg-Strauss, GwP (Wegener's Granulomatosis), Giant cell arteritis/PMR, Takayasu's arch aortitis
- Auto-immune: SLE/lupus (Paula Abdul), systemic sclerosis, Sjogren's Syndrome (Venus Williams), dermatomyositis/polymyositis (Maria Callas), overlap syndromes
- Degenerative: osteoarthritis, cervical and lumbar spondylosis
- Osteoporosis, osteomalacia

Rheumatoid Arthritis

- Symmetrical, peripheral inflammatory polyarthritis.
- More common in females: mean age at onset is rising
- A relatively recent disease, and becoming less common/less severe
- Christiaan Barnard. Tatum O'Neal, Kathleen Turner, Lucille Ball, Glenn Frey, James Coburn, Rosalind Russell, Edith Piaf, Pierre-Auguste Renoir

Renoir



Ankylosing spondylitis..question mark posture



More rheumatic conditions

- Soft tissue: tennis/golfers' elbow, frozen shoulder, bursitis (housemaid's knee), tendinitis, plantar fasciitis (policeman's heel), trigger finger, carpal tunnel syndrome, lumbar and cervical disc prolapse, rotator cuff impingement syndrome
- Ehlers-Danlos syndromes, Marfan's Syndrome (Lincoln), Fibromyalgia
- Auto-immune diseases can produce virtually any symptom and affect any tissue in any organ in the body
- Rheumatology, The true last bastion of "general medicine"
- Eg. Copper allergy, Charcot-Marie-Tooth disease, MND, MS,

So, what's new since 1975?

- Aspirin now used only as an anti-platelet drug and in very low dose
- Massive reduction in upper GI bleeds, many surgical procedures now unnecessary (V&P, Roux en Y, partial gastrectomy)
- Almost no need for gold and penicillamine, Cyclosporin, sulphasalazine, leflunomide
- Still a role for Methotrexate and Hydroxychloroquine
- Still a role (but less so) for corticosteroids, azathioprine, NSAIDs
- Rarely any need for hospitalisation
- Rarely see rheumatoid nodules, vasculitis or A-A subluxation. WHY?

From Research Lab to Rheumatology Clinic

- Basic research showed inflammation at biological level (Kennedy Inst)
- Discovery of cytokines, interleukins, interferons, kinases: intercellular messengers including Tumour Necrosis Factor (TNF-alpha)
- Ability to induce antibodies and blocking agents to stop inflammation
- Soluble receptors (etanercept), monoclonal antibodies (infliximab)
- Genetically engineered in bacteria under sterile conditions (recombinant DNA technology)
- VERY expensive, but game-changing interventions
- Now have numerous biologic agents, including biosimilars (cheaper)
- Used in RA, PsA, AS, SLE, osteoporosis...and macular degeneration

Tongue twisters medicines

- Anti-TNF alpha agents: infliximab (Remicaide), adalimumab (Humira), certolizumab pegol (Cimzia), golimumab (Symponi), etanercept (Enbrel), tocilizumab (Actemra... IL-6 blocker)
- Anti-CD20 in SLE: Rituximab
- Belimumab in SLE
- Secukinumab/ustekinumab in Psoriatic Arthropathy, Ank Spond, IBD
- Denosumab in Osteoporosis

What causes RA and similar conditions?

- We still don't know! No change since 1975
- “modern”: not found in antiquity or in paintings prior to early 18thC
- “Abnormal immune response to commonly encountered infective agents in a genetically susceptible individual”
- Co-morbidities with other auto-immune diseases: thyroid, adrenal, alopecia, pernicious anaemia, and familial tendency
- Inflammation leads to increased risk of atheroma
- Includes gingivitis (porphyrimonas gingivalis, actinomyces, treponema)
- Watch this space: Vit D, zinc, turmeric, dietary manipulation (faecal microbiome)

The End

