

All Creatures ...

John Chippendale (retired general practitioner – Lancaster)

An anecdotal account of how various living creatures great and small impinged on my life in medicine ... and before.

INTRODUCTION

I first had the idea of doing this article when out of curiosity I searched the 'net' to find out how Ebola starts. I found that fruit bats harbour the virus and, possibly via their discarded, partially eaten and infected fruit, the virus passes to small animals. The infected animals, may become 'bush meat' for villagers in West Africa and thus the virus reaches humans.

What follows is a record of how I interacted with living creatures in my boyhood and in my active years in medicine from 1951 to 1998. My boyhood was in the small town of Boroughbridge in North Yorkshire.

STARTING LARGE

Horses¹

Two stories here and both from my time doing my National Service as Garrison Medical Officer at Bulford Camp in Wiltshire. I was on call and was informed that the Brigadier in charge of the Salisbury Plain troops was missing. He had not returned from his evening horseback ride out on the Plain. I waited with some anxiety but then heard the Brigadier had been found trapped under his horse, which had died under him. He had been taken back to his quarter but when I called he opened the door for me! Examination revealed a seriously bruised leg. I was reassuring and the whisky the Brigadier offered perhaps persuaded me to stay let him stay at home. Then, I worried my night away when I remembered the serious side effects of crush injury!

A horse featured again when a young Royal Horse Artillery officer limped in to see me. He had been savaged in the groin by a stallion. He had a de-gloved scrotum with the testicles revealed. He needed surgical closure over a drain but recovery was full.

Cows and deer

Rather like the heavy horse which pinned down the Brigadier, cows in particular can cause severe often fatal crush injuries due to their weight. This is especially a problem when they are agitated in confined spaces. Although I did not deal with any such crush injuries I know of several such cases through colleagues and friends. One case involved a deer.

GOING SMALLER

Pigs

My father kept pigs on a smallholding during the 1939-45 war. He was always concerned that his sons were made aware that pigs are omnivorous. They will eat anything and he told of a pig eating his jacket which he had mistakenly draped over a pigsty door. Only a strip of cloth with buttons was left!

But my anecdote here is of my assisting at the first porcine abdominal aortic graft at Leeds in 1957. Mr Alan Pollock, of the Professorial Surgical Unit, did the operation and the pig was sourced from the University farm. Mr Pollock explained that the pig abdominal cavity is roughly equivalent in size to the human abdominal cavity; the pig aorta he used was a snug fit.

A friend, needing an aortic valve graft in more recent times, had the choice of a porcine graft or a synthetic one. The pig is definitely a friend to man.

Sheep

Before coming to Lancaster I was an assistant in Wakefield in a very urban practice. In Lancaster I found we were very much in sheep country and, soon enough, a young farmer came to see me with a raised black lesion on his forearm – yes – it was orf. I seem to remember I gave a course of tetracycline which was recommended at that time but that could only have helped any secondary infection as orf is a parapox viral infection. The treatment of choice now is acyclovir but that was not available for viral infections until many years later.

Dogs

I was chased in a frightening way by a 'friendly' German Shepherd when aged 5. The dog pushed me into a nettle bed and clearly this incident has made me subconsciously fear dogs, and they know it.

I was walking with my future wife in a wood near her home when out of the blue a dog came straight at me and bit my leg. I went to the casualty department and was given an ATS (anti tetanic serum) injection. Within hours I had a gross allergic reaction as I must have been rendered sensitive by an earlier ATS injection after an injury in boyhood. There was no active immunisation against tetanus at that time, but I am now actively immunised.

This was useful when I was attacked by a dog when doing a house call in Lancaster. This time I was bitten on my hip. I had asked for the dog to be kept in the kitchen as I examined a child. However the dog burst out through the kitchen door and went straight for me – of course! I think a family dog can be protective of a child and sees the examining doctor as the child's assailant; just my theory.

A boy patient had intractable eczema and I became worried about the amounts of steroid ointment he needed. What was the cause? Was he allergic to something? The RAST – radioallergosorbent test – had just come into use and a first for me was to arrange this test. It showed the boy was hugely allergic to dogs. He loved a large thick haired dog which dominated a small terrace house. I explained – but there was no way the family would make different arrangements for the dog! Was there a partial resolution by greater use of the vacuum and the boy sleeping at grandma's house?

Another dog case – dogs seem to have loomed large in my working life! This involved a patient who had been bitten on the leg by a farm dog when walking in France. The incident was two weeks ago but he had become increasingly worried about rabies. What to do? I decided

to ring the Liverpool School of Tropical Medicine. Their advice was to find out if the dog was 'alive and well'. My patient then began complicated detective work using a friend living in France. The dog was tracked down and it was 'alive and well' – rabies scare over.

A hen and a turkey

Back on the smallholding during the war a hen became 'crop bound'. This is like a pyloric stenosis and grain etc will not pass on and the distended crop is easily felt in the neck. A book on animal husbandry explained that an operation to open the crop and clear any obstruction was possible and my father (a road engineer!) prepared the area and operated. I hope he used some ether? I clearly remember watching the procedure and was this the beginning of thoughts that I might 'do medicine'?

Turkeys can suffer from an unpleasant disease called 'black head'. This a protozoal infection also called histomoniasis. The recommendation back in those smallholding years in the 1940s was to give the turkey a preventative inoculation via an IV injection into a large vein under the wing. Most of the flock ran around after the injection but this one bird stood with drooped wings and then flopped over – dead. Oh dear – whatever had happened? All was soon made clear. The vein had been torn and the turkey simply bled to death. The drooping wing had concealed the bleeding. A lesson for a budding doctor ... but I was only 10 at the time!

VERY MUCH SMALLER

Bees²

I have to mention bees because we also had bees on that smallholding! We did not have the all-enveloping bee-suits in the early days. We wore gloves and a veil and pants tucked into socks. One day I made the mistake of tucking my veil into an aertex shirt. Recipe for disaster and when a colony of bees got excited aertex was not very protective. I was stung several times before taking refuge in the car.

A close friend of my father was not so lucky. He was unaware that he had become allergic to bee venom and one day, when working with his bees in an isolated spot, he was stung and died of anaphylactic shock. He loved his hobby of beekeeping; this was a tragic event.

Mosquitoes³

I never worked in tropical areas but two cases of malaria come to mind. My partner, Graham Anderson, was civilian medical practitioner (CMP) at Halton Bridging Camp. I was his deputy for a spell of leave and the leave coincided with 600 Gurkhas being billeted at Halton! Each day I waited to hear that there was a full waiting room at the medical centre – but no Gurkhas were ill. Seems they are made of strong stuff. But then on the Wednesday one man reported sick – and he was very sick with a high fever, sweating etc. Was it malaria? I took blood straight up to the lab and in minutes – yes it was – plasmodium parasites seen in the blood film. This one case of malaria was the only Gurkha needing a doctor in my fortnight as CMP!

My other case of malaria was in a patient enjoying long haul holidays which had become affordable in the

1980s. Off he went to Kenya but he didn't bother with any anti-malarial prophylaxis and sure enough there he was on his return with a high fever and rigors. After getting the history of recent travel to the tropics I suspected malaria and again the blood film proved it. He was admitted to hospital and recovered fully.

I think those were my only cases of malaria in my 30 years in general practice.

STILL SMALLER

Lice

My knowledge of lice and their eggs – nits – which are attached to hairs, often above the ears in the case of head lice, began in my school days. The school nurse made regular inspections of all pupils looking for the nits. Then dealing with louse infestations and the finding of nits, became a part of life for a general practitioner. One memory is of the indignation of rather more 'well-to-do' parents when their children became infested by contact at school.

Fleas

A number of young women students came to see me when I was a College Medical Officer. They had quite extensive insect bites. This was puzzling as the season was wrong. Then one student found an 'insect' in her bed and captured it using the time-honoured method of pressing a bar of soap on it. We sent the insect to the British Museum and they found it was an avian flea. It seemed pigeons carrying fleas had gained access to the roof space above the student rooms and the fleas had sought human hosts via central heating pipes. Extensive screening work excluded the pigeons and solved the problem.

Mites

Rather like treating louse infestations, dealing with scabies caused by *Sarcoptes scabiei* is very much part and parcel of a general practitioner's life. I saw countless cases but one case stood out! The areas involved were in the right places but they were so extensive and thick. I referred the case to Dr Robert Seville, Consultant Dermatologist and his diagnosis was Norwegian crusted scabies. Why Norwegian? It seems cases were first seen in Norway in the mid 1800s. I read now that there may be deficiencies in the immune system allowing the mites to proliferate to a greater extent than usual. I don't remember any associated illness in my patient.

Ticks

I remember finding a tick in the skin of my flank after a trip to the mid-west of America. I winkled it out carefully. I don't think I was too worried at the time but I might have gone on to get one of the rickettsial illnesses which are tick borne. My son, a keen fell-walker, had a friend who had suffered from Lyme disease and he became part of the tick danger awareness scheme in south west Ireland. Lyme disease is caused by the tick borne spirochaete *Borrelia burgdorferi*. Morecambe GP, Dr Bernard Pollock⁴ needed treatment for Lyme disease and wrote an article about the disease and his experience of suffering from it. His

article was in 'Keer to Kent' the magazine of the Silverdale and Arnsdale Area of Outstanding Natural Beauty. I have permission from his widow, Dr Ruth Pollock, and the editor of 'Keer to Kent' to reproduce the article, which follows, as it adds much to this section about ticks.

This completes my anecdotal account but perhaps I should finish with two lines from the hymn:

'All things bright and beautiful
all creatures great and small'

Correspondence to:

John Houghton Chippendale MB, ChB, D.Obst RCOG
jjchip@tiscali.co.uk

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The Dangers of Ticks and Lyme Disease

Bernard Pollock

A significant threat from an unsuspected source has recently been found to occur in our area. It is an infection called Lyme Disease. There is speculation that the incidence of this infection is increasing due to larger numbers of ticks as a result of global warming. This has potentially serious health implications for anyone engaged in outdoor activities within the Silverdale and Arnsdale Area of Outstanding Natural Beauty and beyond, when contact is made with vegetation carrying infected ticks. Awareness of this risk is, therefore, an important first step in the prevention of this infection.

Like so many of us, I have frequently removed ticks from my skin, without further thought, following outdoor exploits around Warton. Last May, however, I unexpectedly developed Lyme disease following a tick bite some weeks before. I remember that the original bite on my right shoulder did not heal as quickly as previous ones and remained persistently itchy for some time.

One morning I awoke conscious of a painful right shoulder joint, a mild fever, generalized aching of the body and a feeling of utter exhaustion. These are apparently secondary symptoms, and the original tick bite had already become red, with an expanding circular rash like a red ring of 6 inches diameter around it (the skin between the bite and the red ring being relatively pale). This skin eruption has been described as *Erythema migrans* (giving a 'Bull's Eye' appearance), and the suspicion that this was Lyme disease was soon confirmed, both clinically and later with a serum blood test. I was fortunate that the treatment, which had been started promptly, proved to be successful.

CAUSE

Lyme Disease, or *Lyme borreliosis*, is carried by the sheep tick, *Ixodes ricinus*, amongst others. It is caused by a spirochaetal bacterium carried in the mid-gut of infected ticks. The disease was first recognised and described in November 1975 at Old Lyme, Connecticut, USA, although it is thought to have been present in England for at least 100 years.

The tick, which is carried by a number of host animals, including deer and pheasants, has three stages

of development. The eggs found in leaf litter hatch into larvae and are picked up by birds and rodents as hosts who provide a meal of blood. The larvae then develop into nymphs, which, being more mobile, crawl to the ends of grasses, and other low vegetation, where they latch onto passing host animals including humans, to take the next blood meal and so reach the adult reproductive stage. After mating, the female falls to the ground, where she lays her eggs, to repeat the cycle.

Most commonly it is at the nymph stage, especially during spring and early summer when ticks are active feeders, that they affect humans. As they are so small, at first they are easy to overlook and can be difficult to detect. The risk to human health comes from those particular ticks that carry the bacterium *Borrelia burgdorferi*. Another difficulty is that more than one tick-borne disease can be carried, making diagnosis more of a problem.

PREVENTION

The most important factor is to be aware of the existence of Lyme disease in this area. Prevention is of course always better than cure and there are some preventive measures which should be considered before venturing out on walks off the beaten track or in other 'field' activities. These include the following:-

- Wear light-coloured clothes, so that ticks, if they accidentally land, can be seen more easily and removed before they reach the skin.
- Wear a long-sleeved shirt and long trousers tucked into the socks, to keep as much of the skin covered as possible.
- Use insect repellent (with care) to deter ticks.
- After a day out in the countryside, strip off, shower and inspect your skin thoroughly, to ensure that no tick has been overlooked.

If a tick is discovered, it is crucial to remove it sooner rather than later. Although other methods are possible, the tick, usually a small nymph, can be removed by using fine tweezers. It should be picked up as close to your skin as possible so as not to squeeze the contents of the tick into