The outbreak of the first world war and the medical profession

One hundred years ago, on 28 June 1914, the heir to the throne of the Austro-Hungarian Empire, the Archduke Ferdinand, was assassinated in Sarajevo, the capital of Bosnia, by a young Serb separatist. After refusing the stern terms of the Austrian ultimatum as regards reparations, Serbia found itself at war. In support of its Serbian ally, Russia declared war on Austria, which was followed by Germany, in support of its Austrian allies, declaring war on Russia. France was allied to Russia and, when the French refused to promise neutrality, Germany declared war on France on 3 August. The German high command plan was to invade France through Belgium and the attack commenced the same day. Belgium's ally, Great Britain, issued an ultimatum to Germany for its immediate withdrawal; when this request was ignored, Great Britain, closely followed by the Commonwealth nations, declared war on 4 August. Later, Turkey and Bulgaria would join the Central Powers, while Italy, Portugal and, in 1917, the USA, would join the Allies.

This dreadful carnage came to be known as 'The Great War'. Only after the war of 1939–45 did it come to be known as 'World War I', or even 'WW1'.

The medical profession in this country responded to the crisis with surprising speed, and this is reflected by reading the professional journals of those times. Within 4 days of the declaration of war, the leading article in *The Lancet* of 8 August, under the banner heading of 'God Defend the Right', could state 'with a sense of real pride we can reflect that the members of the medical profession to a man are placing their services at the disposal of the country in any capacity where they are required'. Seven days later it reported that the Territorial Medical Service had already been called up, with 56 field ambulances and 23 general hospitals. Indeed, the Royal Naval medical reservists had been mustered well before the outbreak of war.

By 6 September *The Lancet* reported the arrival of the first wounded soldiers back to the UK, including 316 to the London Hospital. Thirteen Royal Army Medical Corps (RAMC) medical officers of the British troops in Flanders were reported 'missing in action' and another wounded, and the following week came the news of the first doctor to be killed in action, a Captain AS Williams.

In the 21 November issue, *The Lancet* recorded that, in the first list of recipients of the Victoria Cross, one of the nine was Captain Harry Rankin RAMC, who qualified in Glasgow in 1905. The citation reads: 'for tending wounded in the trenches under rifle and shrapnel fire on September 19th and 20th, continuing to attend the wounded after his thigh and leg had been shattered'. In the first world war, medical officers would frequently leave the comparative safety of the regimental aid post and, together with their stretcher bearers, go out in close support of their men into no man's land.

The consequence of their bravery was a very high casualty rate among the doctors. For example, at the battle of the Somme, in 1916, 52 medical officers were killed and another 188 were wounded. The death of the medical officer was a severe blow to the morale of the rest of the battalion. The lesson was remembered in World War II and subsequent conflicts; the doctor was instructed to stay at his post, where he could look after the regimental wounded, rather than getting himself put out of action in an attempt to save one or two injured men lying out in no man's land.

In the early days of the war, experienced surgeons, used to dealing efficiently with injuries of civilian practice, found that this was ineffective in the face of the massive damage produced by high velocity missiles. Gas gangrene was more common than in any war before or since, as a result of the combination of severe ischaemic tissue injury combined with bacterial contamination from the fertile fields of Flanders.

Tetanus complicated 8.8 per 1000 wounds in September 1914. It rapidly became practice to perform radical excision of all damaged tissue and particularly removal of any foreign bodies at the casualty clearing stations, situated just a few miles behind the trenches. Dry gauze was used to pack the wounds and delayed primary suture carried out at the base hospitals 4 or 5 days later – a technique that has been used ever since in military surgery. This, combined with use of antitetanus serum, reduced the incidence of tetanus to the region of 0.2 per 1000 wounds. Gas gangrene remained a serious problem when there was delay in the wounded soldier getting to surgery, a problem that remained until the introduction of penicillin in the later stages of the second world war.

Someone once wrote that: 'the only thing to benefit from war is medicine'. Certainly this statement was borne out by the experiences of the Great War. The dreadful mutilations of the face, which occurred in large numbers, led to the pioneer work on pedicle flaps and other reconstructive procedures carried out by Sir Harold Gilles and others, which led to the foundation of modern plastic surgery. His anaesthetist, Sir Ivan McGill, developed endotracheal anaesthesia. Harvey Cushing established the use of suction debridement of compound brain injuries. Early surgery for penetrating abdominal injuries, with exteriorisation of colonic wounds and resection of small bowel wounds, halved the near 100% mortality of these dreadful injuries.

The Great War of 1914–18 was a horrible and wasteful catastrophe. The only shining exception to this was the great advances made in nearly every field of medical science. **BJHM**

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