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Historical Article

Guillotine tonsillectomy: a glimpse into its history and current status in the United Kingdom

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Abstract
Guillotine tonsillectomy was the widely practised technique of tonsillectomy in the late 19th century as it was considered a quick and reliable method of removing tonsils. It fell into disrepute in the early 20th century. This paper reviews the history of the origin of the tonsillotome and traces the various modifications over the last few centuries. The current practice of guillotine tonsillectomy is examined by means of a postal questionnaire survey of all UK consultants.

Key words: Tonsillectomy; Surgical Instruments; History

History of the tonsillotome

History is as essential to the philosophy of any branch of medicine as is actual clinical experience to its successful practice. We cannot deny the fact that just as knowledge of the classics remains the hallmark of a liberal education, even so a study of medical classics teaches the vanishing art of clinical observation, and enables us to speak with greater accuracy on medical problems of the present day.

At times, there remains the controversial issue as to who should, or should not, have his tonsils removed. But whether or not a particular patient needs them removed, the historical development of tonsillectomy has rendered tonsillectomy a very precise and safe operation. It is by no means a minor procedure and requires great skill and concentration to meet the altering circumstances that may occur during the operation. The first authentic report on the removal of the tonsils was by Celsus in the first century A.D. He wrote 'tonsils which remain indurated after inflammation are called *antiades* by the Greeks. If they are covered by a thin membrane, they should be loosened by scraping around them and then torn out. When this is not possible, they should be picked with a little hook and excised with a scalpel. Afterwards, the fossae should be washed out with vinegar and painted with a medication to reduce bleeding'.[1,2] Albucassis (AD 936–1053) practised in Cordova. His principal work was called *The Collection* or *Tasrif* and it gave a complete account of surgery and medicine. He described different operative procedures that included the use of a form of tonsil guillotine.[3,4]

The modern tonsillotome or guillotine and its various modifications evolved from an instrument called the uvulotome, that was originally designed for the removal of the oedematous or elongated uvula. The earliest description of the uvulotome appears in the *Historiarum Anatomicarum Rariorum Centuriae* of Thomas Bartholin, Hafniae, 1941.[4] In this Bartholin speaks of the prevalence of a certain kind of catarrah which occurs in Norway during the winter months. He described a disease 'which spread to the fauces and uvula causing a swelling of the latter at times as to necessitate surgical intervention in order to prevent suffocation'. He describes how a certain Norwegian peasant, Canute of Thorbern, devised an instrument which consisted of a shaft with a fenestra at its distal end and a blade pushed across it, which excises the swollen uvula with great speed and dexterity in the twinkling of an eye.[4] (Figure 1) A less complex and simpler instrument was the modification by WT Rau of the Thorbern uvulotome. It had a support on its undersurface by which it may be grasped more firmly.[4]

About 150 years later after the first description of a uvulotome, Benjamin Bell of Edinburgh (1749–1806) described a modification of the uvulotome, which consisted of a sliding knife in a groove passing over a fenestrated plate, and used it for excising uvulae.[4] The Parisian surgeon Pierre Joseph

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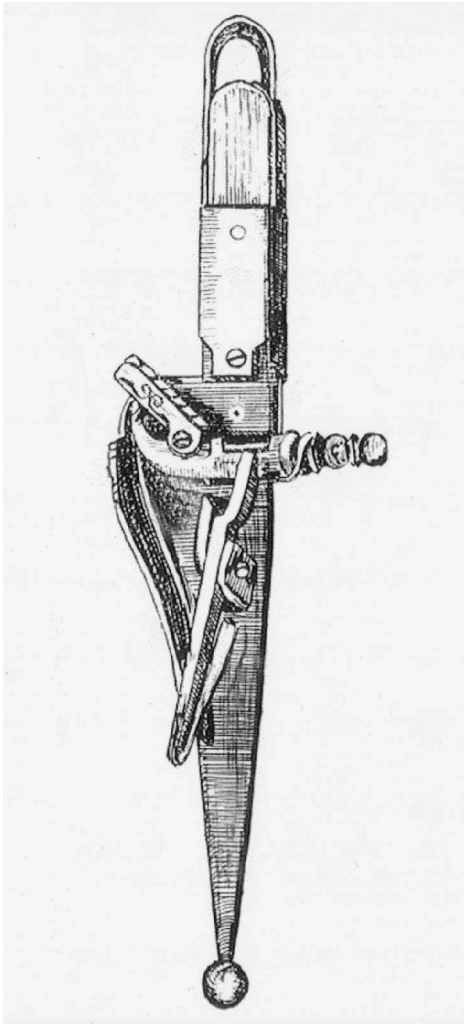

FIG. 1
Canute of Thorbern's uvulotome.

Desault modified an instrument known as a *kiotome* or cystotome which was used for removing cysts of the bladder. He used it for removing tonsils and performed it by grasping the tonsil with a hook, pulling it forward and passing it through a half-moon shaped notch. A sharp edged blade passed through the sheath across the notch.[3,4] The instrument was not very popular as most people preferred the knife, scissors and ligature with various methods of application in spite of the supposed dangers of haemorrhage and inconvenience.

Philip Syng Physick (1768–1837) of Philadelphia published an account of a method of removing tonsils by means of slowly strangling them with a soft wire. The whole process could take up to 12 hours, during which time the patient sat drooling in pain and unable to swallow. However, actual tonsillectomy was considerably restricted by the inadequacy of anaesthesia and therefore surgeons made every effort to perform the operation as quickly as possible. In 1828 Physick modified Bell's uvulotome. This instrument was the forerunner of the modern tonsillotome.[1] He used it for speedier removal of the tonsil. The modification consisted of an increase in the diameter of the aperture of the guillotine and the positioning of a strip of waxed linen to achieve a clean cut. Physick wrote, 'it is easy to cut off the whole or any portion that may be necessary of the enlarged tonsil in this manner. The operation can be finished in a moment of time. The pain is very little and the haemorrhage so moderate that it has not required any attention in the four cases in which the doctor performed it'.[3,4]

Guillotine – an unwanted eponym

It was in the early 19th century that the word guillotine, which originated after the French Revolution, was associated with the use of the tonsillotome and the procedure of tonsillectomy. However, there is no actual reference in the literature to its first use. The word guillotine itself was an unwanted eponym derived from the French revolution. The guillotine a powerful disruptive machine, was indeed an apt symbol of the revolution, used for decapitation and instantaneous execution of criminals.[5] The guillotine was named after Dr J. I. Guillotin (1738–1814) who was an eminent and respected physician and a member of the National assembly during the French revolution. A philanthropist, he was deeply moved by human suffering and strove to make the execution of criminals less barbaric. He advocated the use of an instrument which caused a more certain and quicker way of death and one to be used instead of the sword for noblemen and the rope for peasants, thereby ensuring equality of its classes.

On October 10th 1789, Dr Guillotin proposed to the National assembly that all condemned criminals, regardless of class would have their heads severed with a single blow from a machine. Dr Antoine Louis, prison surgeon perfected the design and gained the approval of his king, Louis XVI. The instrument was called 'la louisette', whether after the inventor or monarch is uncertain. Over 20 000 citizens lost their lives under its blade. Ironically both Louis XIV and Dr Louis suffered the same experience of the blade falling on their neck. The media referred to the instrument as 'la guillotin', after the name of the person who first proposed it and the name stuck.[6,7]

Dr Guillotin was fortunate himself to escape execution by the guillotine and tried in vain to detach his name from the instrument as did his family after his death. Guillotin's children only succeeded in getting permission to change their own name.[6]

Inumerable modifications and improvements, real and otherwise, have been made to the instruments. Of the various instruments described, only the types proposed by Physick and Fahnestock have been widely used. The names of Gibson, Guersant, Chassaignac, Charriere, Mathieu and Maissonneuvre are associated with modifications of Fahnestock's instrument.[4]

Morell Mackenzie modified the Physick tonsillotome by making it simpler, and using a reversible handle so that surgeons could remove both tonsils using one hand (Figure 2). He also created a double tonsillotome in order to remove both tonsils

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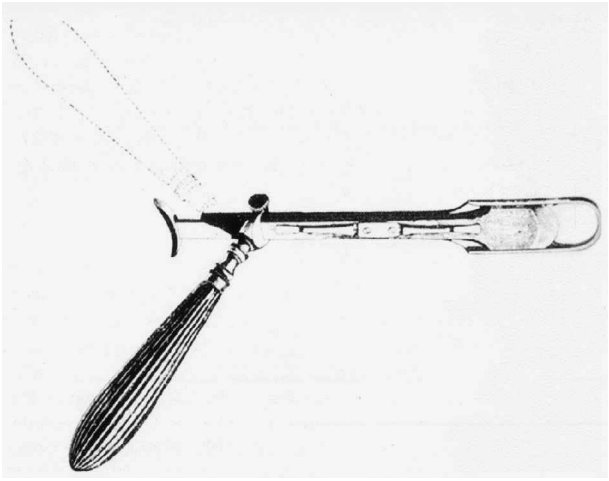

FIG. 2
Sir Morrell Mackenzie's reversible tonsil guillotine.

together.[8] By the end of the 19th century, Morell Mackenzie popularized the technique of guillotine tonsillectomy and the guillotine remained a favourite instrument for many years. Sir Felix Semon, Physician Extraordinary to Edward VII also popularized the technique of guillotine tonsillectomy in late Victorian times by performing operations on various members of the Royal family. The operations on the daughters of Prince Louis of Battenberg were performed at Buckingham Palace by the Queen's command.[9] Greenfield Sluder, a strong advocate of the guillotine technique, attempted to answer his critics who practised and popularized the dissection technique during the late 19th and early 20th century.[8] He wrote 'that a perfect tonsillectomy by whatever method is a valuable service to the patient. Should the surgeon have mastered a satisfactory dissection technique it is doubtful whether it is wise to advise him to change it for another unknown to him.'. The Sluder model of the guillotine was again a modification of the uvulotome. It was altered to give greater strength in the instrument and to increase the leverage employed in its use. He also described the Sluder technique of guillotine tonsillectomy. The technique moves the tonsil completely out of its tonsil bed in a forward and upward direction utilizing the alveolar eminence of the lower ramus of the mandible as a vantage point. He described the technique as the least traumatic method. He claimed that he and his colleagues attained 99 per cent perfection for tonsillectomy.[8] Among those disappointed by the Sluder technique were Coakley, Freer and Ballenger. Ballenger later modified the guillotine to an avulsion type guillotine.

In 1910 Samuel Phyllis and Frederick Pybus from Newcastle described a special method of using the guillotine. They achieved complete enucleation of the tonsil and its capsule in about 50 per cent of their cases and could perform up to 10 tonsillectomies in 40 minutes.[10] Otto Oswald Popper introduced his haemostatic guillotine in 1929. The Popper's guillotine has two blades, a crushing blade and a cutting blade. He described his series of 12 523 tonsillectomies over a nine year period (1957–65) with an average of tonsillar reactionary haemorrhage of 0.25 per cent.[11]

The literature over the last three decades has been rather variable in its attitude towards the operation. There are papers comparing dissection tonsillectomy and guillotine tonsillectomy with regard to post-operative haemorrhage,[12,13] post-operative pain,[14] incidence of bacteraemia[15] and the problem of tonsil tags.[16]

Guillotine tonsillectomy survey

In an attempt to evaluate the place of guillotine tonsillectomy in modern otolaryngology practice in the United Kingdom, we carried a postal questionnaire survey.

Method

Questionnaires were sent to 529 BAOL consultant members working in the UK in June 1998. A stamped addressed envelope was enclosed for the reply. The questionnaire inquired about several aspects of guillotine tonsillectomy. All replies had been received by July 1998.

Results

The response rate was 329/529 (62 per cent). We found that 41 (12.5 per cent) performed guillotine tonsillectomy, with just under half of these surgeons 20/41 using the technique as their preferred method for tonsillectomy. Other preferred methods included dissection 76 per cent, diathermy dissection 17 per cent and laser dissection one per cent. Of those consultants using the guillotine, all use it on children, 15/41 (37 per cent) use it on adults and only two out of 41 (five per cent) use it on patients with a previous history of quinsy tonsillitis.

Interestingly, it is the more recently appointed consultants who prefer the use of the guillotine. The guillotine was preferred by 11/41 consultants (27 per cent) who had been appointed within five years, 14/41 (34 per cent) who had been in post for five to 10 years, seven out of 41 (17 per cent) for 10–20 years and nine out of 41 (21 per cent) for more than 20 years. This brings forward the fact that guillotine

TABLE I
RESULTS SUMMARY

Response rate 329/529 (62%)		
Surgeons who perform guillotine tonsillectomy 41/329 (12.5%)		
Preferred methods of tonsillectomy:	Dissection	(76%)
	Diathermy	(17%)
	Guillotine	(6%)
	Laser	(1%)
Of those performing guillotine tonsillectomy (n = 41):		
100% used it on children		
37% used it on adults		
5% on patient with a prior history of quinsy tonsillitis		
27% were in a consultant post <5 years		
34% were in a consultant post 5–10 years		
17% were in a consultant post 10–20 years		
21% were in a consultant post >20 years		

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tonsillectomy will not become a forgotten art as was thought by some otolaryngologists. Nearly 25 of the 41 surgeons who practice guillotine tonsillectomy have been in a consultant post for less than 10 years and it is more than likely that this technique will continue to be taught for many generations. (Table I) Another interesting feature from this survey is that this technique is more popular in certain areas of the United Kingdom with more consultants in the Midlands and the Yorkshire region doing guillotine tonsillectomy than in the South, Scotland or Northern Ireland. This polarization does explain the interest and varied comments that this survey triggered. This survey highlights the fact that the guillotine technique which is the oldest known method of tonsillectomy is still practised safely by some otolaryngologists in this country and is likely to continue as long as surgical removal of the tonsils is practised.

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References

1 Curtin JM. The history of tonsil and adenoid surgery. In: Kornblut AD, ed. The Otolaryngologic Clinics of North America, Philadelphia: W.B. Saunders, 1987;**20**:415–9
2 Thornval A. Wilhelm Meyer and the adenoids. *Arch Otolaryngol* 1969;**90**:383–6
3 Weir N. *Otolaryngology – An Illustrated history*. London: Butterworths and Co. Ltd., 1990
4 Friedberg SA. The evolution of the tonsillotone. *Ann Otol Rhinol Laryngol* 1914;**23**:293–303
5 Jordanova L. Medical meditations: Mind, body and the guillotine. History Workshop – a journal of socialist and feminist historians. 1989;**28**:39–52
6 Dubb A. Guillotine – an unwanted eponym. *Adler Museum Bulletin* 1993;**19**:29
7 Schwarz AW. The guillotine execution device. *Scalpel Tongs* 1992;**36**:63–4
8 Sluder G. Tonsillectomy: by means of the alveolar eminence of the mandible and a guillotine with a review of the collateral issues. London: Henry Kimpton 1923
9 Semon HC, McIntyre TA. *The Autobiography of Sir Felix Semon*. London: Jarrolds Publishers, 1926;236–51
10 Whillis SS, Pybus FC. The enucleation of the tonsils with the guillotine. *Lancet* 1910;**2**:875–8
11 McGuire NG. A method of guillotine tonsillectomy with an historical review. *J Laryngol Otol* 1967;**81**:187–95
12 Roberts, Jayaramachandran S, Raine CH. A prospective study of factors which may predispose to post-operative tonsillar haemorrhage. *Clin Otolaryngol* 1992;**17**:13–7
13 Carrick DG. Salicylates and post-tonsillectomy haemorrhage. *J Otol Laryngol* 1984;**98**:803–5
14 Homer JJ. Tonsillectomy by guillotine is less painful than by dissection. *Int J Pediatr Otolaryngol* 2000;**52**:25–9
15 Walsh RM. Post-tonsillectomy bacteraemia in children. *J Otol Laryngol* 1997;**111**:950–2
16 Kerr AI, Brodie SW. Guillotine tonsillectomy: anachronism or pragmatism. *J Otol Laryngol* 1978;**92**:317–23

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