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CASE OF HEMORRHAGE FOLLOWING THE EXTRACTION OF A TOOTH, AND TERMINATING FATALLY.

By DAVID HAY, M.D.,
FELLOW OF THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

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A gentleman, aged 31, on Sunday the 19th of December, suffering extreme pain from toothache, had the *dens sapientiæ* of the right side extracted. The tooth was loose and decayed, and was removed by the dentist, Dr Roberts, with the forceps without difficulty, and without any considerable force.

His mouth was instantly filled with blood; and the blood continuing, pressure was applied after touching the socket with camphorated spirit, and afterwards with oleum terebinthinæ.

On the 20th I called to visit another patient in the house, and was told that Mr P. had undergone the operation of tooth-drawing the day before, and that the oozing of blood still continued, but that effectual pressure had been made by the gentleman who had extracted the tooth. At 4 A.M. of the 21st, I was called to see him, and told that the bleeding had increased to a formidable extent, and that he had sent for Dr R. late in the evening, who first applied lunar caustic, and then very firm pressure. When I examined the mouth, I thought it improper to remove the compress, as the bleeding had moderated, till it was possible to examine the mouth by day-light, and advised the use of a strong solution of alum and cold to be applied to the face, by means of a bladder partially filled with snow, and all the food and drink he took to be cooled with ice.

At 9 A.M., the bleeding continuing, I removed the compress, and examined the gum and socket carefully. The caustic had blackened the parts so much, that it was impossible for a time to discover the exact point from which the blood issued. At length I observed a stream from the inside of the gum next the cheek, and to this point I applied the actual cautery with effect; —a firm compress of lint was placed on the parts. He had also a saturated solution of acetate of lead, to make use of in case of bleeding.

In the course of the day, the hemorrhage returned, and Dr Roberts again applied the cautery, pressing it into the socket of the anterior fang of the tooth, from which he discovered the blood to be discharged immediately after its removal. In the evening the bleeding had moderated; and as the acetate of lead appeared to have no particular power in checking it, the alum wash and cold applications were made use of in preference.

Early in the morning of the 22d, I was again summoned to him, the bleeding having recurred with considerable violence after midnight. It had again subsided at the time of my arrival. I felt unwilling to remove the compress and clots till day-light, from the difficulty of using the cautery by candle-light, which appeared to me the most powerful means I could employ. I gave him a brisk purgative of compound powder of jalap, which operated well, at the same time inducing nausea, which checked the bleeding for a while. The stools were black and pitchy, consisting almost entirely of the blood which had been swallowed.

During the 23d, the bleeding was more moderate, but it was evident that a considerable quantity passed downwards, the stools consisting chiefly of coagulated blood. He took frequent doses of the pulv. sulph. alum comp. with sulphuric acid, and occasional doses of the acidulated solution of sulphate of magnesia.[1] The cold applications were continued, and pressure made by means of compressed sponge, till the evening, when Dr Roberts inserted a portion of sponge tent into the socket of the tooth.

On the 24th, notwithstanding the sponge tent and compression, the oozing continued; and his lips having become blanched and his pulse small and frequent, it was evident that he was in a very perilous state. Mr Nasmyth now visited him at 2 P.M. He did not think it advisable to remove the sponge tent, but rather to keep up a moderate degree of pressure over it by means of lint, and as the styptic powders nauseated, that they should be continued.

On the 25th, there was less bleeding, though the saliva which ran from his mouth was reddened. The 26th and 27th he remained nearly in the same state, there being a greater disposition to bleed at night, which prevented him going to bed, and induced him to remain on a sofa in a half erect posture. The sponge tent became raised, and as it was producing no benefit, it was removed. A portion of the skin of the lip, which had been accidentally touched when the cautery was applied, evinced the hemorrhagic tendency, as it continued oozing blood for several days. The sloughs produced by the cautery and caustic now

[1] The solution of sulphate of magnesia with sulphuric acid, I have often found very useful in purpura hemorrhagica.

were gradually thrown off, and on Wednesday the 29th there was nearly a cessation of bleeding.

His strength was much exhausted,—his surface pale and lips blanched,—his pulse frequent, from 100 to 110, feeble, and compressible. He took the saccharine carbonate of iron in frequent doses, with sulphuric acid, and afterwards with nitric acid.

On the 30th, he complained of pain of the face and gums, which were swollen and spongy; the gums again began to bleed from various points both of the upper and under jaw. The slough was completely detached from the original site of the bleeding, and the alveolar process was felt bare with the appearance of threatened exfoliation. Camphorated spirits and oil of turpentine were occasionally applied to these spots; and the tincture of kino in water, chloride of sodium, bark and alum washes to the mouth frequently.

On the 2d and 3d of January, the spongy condition of the gums continued to increase, and near the points from which the tooth had been extracted the gum became very broad and flattened. At this period the sponginess of the gums was very remarkable, resembling in appearance that observed in sea scurvy, the swelling of the gums of the inside of the mouth extending almost to the edges of the teeth. He no longer passed blood by stool, yet his strength visibly declined. He tried lemon juice, substituted Battley's solution of yellow bark for the iron, had wine, at first in moderate quantity, and afterwards in fuller measure, with animal broths, calf's foot jelly, eggs, &c.

On the morning of the 8th, he fainted when rising from the sofa, on which he still preferred remaining to being in bed; he complained also of dimness and indistinctness of vision. A solution of nitrate of silver (30 grs. to $\bar{z}$ j. of water) had been used to check the oozing from the gums from the 4th to the 6th; when Mr Nasmyth substituted the acid solution of the nitrate of mercury, which appeared to be more powerful in arresting the bleeding, and occasioning the gums to contract and become paler.

Dr Abercrombie visited him on the 9th, recommended his washing the mouth frequently with a strong solution of sulphate of zinc, and touching the gums twice or thrice a-day with pyroligneous acid, continuing the same means of holding up his strength, and augmenting his wine.

The 10th, in the morning, he vomited, apparently from swallowing the zinc wash. The gums had shown a disposition to slough, particularly in the upper jaw, on each side over the canine and anterior molar teeth. He still complained of the blindness, and suffered from want of sleep. It was agreed that he should have an opiate at bed-time, which produced a good effect.

On the 10th, part of the slough over the right canine tooth of the upper jaw had become detached; that on the left side showed

a line of separation; his pulse, however, was extremely feeble and compressible, notwithstanding the free administration of wine, &c. At 4 P.M., there was slight subsultus; there had been a trifling bleeding from the part whence the slough had been separated, and on the opposite side the portion of gum beyond the line of separation had become livid. At 7 P.M. the unfavourable appearances continued; there was more subsultus and greater prostration of strength, although he sat up in bed, and allowed Mr Nasmyth and myself to examine his mouth. At 11 P.M. I found him still weaker, swallowing with difficulty, moaning, and restless, although an opiate had been given. I gave him some brandy and water, which he had difficulty in swallowing. At 4 A.M. of the 11th, he expired, being the 22d day after the extraction of the tooth.

This gentleman had enjoyed very good health, and was in fuller condition than usual when his tooth was drawn. Four years previously he had a tooth extracted, when bleeding to a troublesome extent took place, but which was stopped by the application of caustic. In justice to Dr Roberts it is proper to mention, that he was not informed of this circumstance, when he was called on to remove the *dens sapientiæ*.

His gums were disposed to bleed at all times. The hemorrhagic tendency in this case was shown by the bleeding from the lip, and by repeated slight epistaxis, which occurred first on the morning of the 22d December, and took place to a trifling extent the day before he died.

The use of undiluted sulphuric acid was thought of as a means of stopping the bleeding, but was refrained from, on account of the difficulty of confining its action, and our unwillingness to extend the slough, already considerable. Ligature of the carotid artery was also thought of, but the want of success in similar cases did not afford encouragement to the measure.

In the progress of this very distressing case, two periods are evident; the first, that of active hemorrhage succeeding the operation, and continuing to the 29th of December, when it had almost entirely ceased, and when Mr Nasmyth, Dr Roberts, and myself entertained hopes that he would gradually regain strength, and recover from the great loss of blood he had sustained. The second, commencing on the subsequent day, the 30th, when he complained of pain of the gums and face, and which was the beginning of that deranged condition of the system which steadily increased, and terminated his existence, under symptoms resembling those of sea scurvy.

Similar cases to the one now read to the Society have not unfrequently occurred, and are to be found scattered in the medical journals, as well as in systematic works; a few of these I shall now shortly mention, in almost all of them the hemorrhagic con-

stitution has existed, as shown from profuse bleeding from slight wounds, or mere abrasions of the surface.

M. Jourdain, (*dentiste*,) in his "*Traité des Maladies et des Operations Realment Chirurgicales de la Bouche*," published at Paris in 1778, tom. ii. p. 595, says, "Nombre d'auteurs font mention d'hemorrhagies procurées par l'extraction des dents, dont les unes ont été arrêtées, et les autres ont couté la vie aux malades. Holler, (Comment. Aph. 18. 2,) fait mention d'une hemorrhagie mortelle procurée par l'extraction d'une dent. Plater cite un exemple semblable d'un œuvrier en fer, mais qui en mourut. Zacutus a guéri une hemorrhagie terrible et desesperée, qui resistait au fer rouge, en injectant dans l'alveole de la dent extirpée l'emplâtre galenque. Felix Plater dit, en 1559, un Serrurier etait travaillé d'une douleur de dent à cause d'une fluxion; il se la fit arracher, mais on ne pouvait arrêter le sang qui sortait, quoiqu'on essayât de toutes sortes de remedes, par haut, subtils rouges et echauffés; ce qui me fit juger qu'une petite artere etait offensée; il ne cessa point de couler jusqu' à la mort." Observ. xxxv. lib. 4.

M. Jourdain considers compression as deserving the preference over the cautery, and says, that in urgent cases where there has been considerable injury done to the socket, recourse may be had to the machine invented by M. Foucon, the uncle, and of which there is a description and representation in the 7th vol. in 12mo, of the *Mémoires de l'Académie Royale de Chirurgie*.

Hemorrhage, he says, sometimes takes place after an interval of several days after the extraction of a tooth; he mentions a case in which this occurred on the 5th day after the extraction of the first large molar; another in which the bleeding took place on the 3d, in consequence of the use of irritating applications. He mentions also a case in which the bleeding returned on the detachment of the eschar produced by the actual cautery.

M. Duval, in a treatise published at Paris in 1802, enumerates as one des accidens de l'extraction des dents, une hemorrhagie dont les suites par fois ont été mortelles, au rapport des plusieurs observateurs.—Cardan. de Causis et Signis Morbor., p. 155.
Felix Plater, as already quoted.
S. H. de Vigiliis Bibliothec. Chirurg., p. 782.

M. Duval is of opinion that this accident is fatal, in consequence of the neglect of patient or practitioner in using proper means. He probably had not met with cases in which the hemorrhagic constitution existed. He quotes from Arnaud Gilles a fatal case, and one which was saved by the use of pressure produced by the half of a bean. Arnaud Gilles' Treatise is dated 1622.

In the 8th volume of the *London Med.-Chirurgical Transactions*, 1816, there is a case by Mr Blagden.

Joseph Lancton had a tooth extracted while a boy; hemorrhage

continued twenty-one days, and then ceased. Hemorrhagic disposition was shown from slight wounds; in 1815, a slight wound of the forehead gave rise to profuse hemorrhage, ligature of both ends of the bleeding vessel failed; the bleeding was eventually stopped by the application of the *kali purum*.

After suffering from toothache for a considerable time from the fear of bleeding, he had the second molar tooth of the upper jaw of the left side extracted on the 30th of June; no particular injury was sustained by the jaw, but there was an abscess at the root of the tooth which either was in or connected with the maxillary sinus. A profuse hemorrhage immediately took place from the alveolus; on the evening of the 1st of July, as the bleeding continued, lunar caustic was applied to the alveolus, then solution of blue vitriol, cold applications, and plugging. On the 4th, the bleeding continuing, Mr Brodie applied the cautery, which restrained the hemorrhage for six hours; in the evening it returned as violent as before. The alveolus was again stopped, and the cautery applied twice, but the bleeding continued notwithstanding. In applying the cautery, a great deal of matter escaped, apparently from the maxillary sinus.

On the morning of the 5th, the patient became very low and depressed, and his situation alarming. It was now determined that the carotid artery should be tied, which was done by Mr Brodie about 10 A.M. The hemorrhage still continued from the alveolus; the wound made in the operation bled little at first, but in the course of a few minutes began to bleed profusely. Ice was applied to the wound, and to the face, and while this was continued, the bleeding was suppressed, but it returned immediately on the ice being removed. The bleeding from the tooth was stopped for a few hours: it returned however, and the patient died at 5 A.M. on Sunday morning the 7th July, a week from the time of the removal of the tooth. On the trunk of the carotid there were several opaque white depositions on the outer surface of its inner coat, such as precede ossification; the branches appeared to have their coats thinner and more transparent than usual.

In the 12th volume of the *Edin. Med. and Surg. Journal*, page 500, a case of fatal hemorrhage is shortly reported as having occurred in London, which resembles the above in all particulars, and is probably the same case. There is also the report of a death from hemorrhage after cupping, in which it was found that the blood did not coagulate.

In Dr Johnson's *Med.-Chirurg. Review* for July 1838, there are some remarks on and cases of constitutional hemorrhage. One of these, No. 4, a man 40 years of age, of a soft, lymphatic constitution, was subject to most troublesome hemorrhage from very slight wounds. On two occasions, the bleeding after the

extraction of a tooth had required for its arrest continued compression for several days. At another time it was necessary to use the actual cautery to stop the bleeding from leech-bites; and the same means were on one occasion requisite to stop the bleeding from a simple wound of a finger. Several times, large ecchymoses had formed after very slight bruises. In this paper, the sulphate of soda is mentioned as having extraordinary power in arresting hemorrhage in some of these cases. It was found, that if this salt were taken for several days successively, in doses large enough to purge the bowels, the bleeding ceased, and the wound began to cicatrise.

Krimer also alludes to the efficacy of this remedy in such cases, particularly to the history of one family, of which all the male descendants for four generations had been most strikingly subject to hemorrhagic accidents. M. Sanson, in his *Concours Thesis* for 1836, mentions the case of a man who died from a urethral hemorrhage. Six of his children had perished from the bleeding from casual wounds.

In the cases 2d and 3d, the hemorrhagic constitution was accompanied by rheumatism; in No. 3, from the *Archives Génerales* for October 1833, all the males of the family were subject to occasional spitting and vomiting of blood; also to hæmaturia, epistaxis, and to troublesome hemorrhage from any part which might chance to be wounded. All of them suffered from troublesome rheumatic pains whenever they were affected with any form of hemorrhage.

In the 20th volume of the *London Med. and Physic. Journal*, 1808, there is an account of a hemorrhagic disposition existing in certain families, by John C. Otto, M.D., of Philadelphia; this disposition being transmitted almost entirely to the males, and shown upon the slightest scratch or most trifling cut. In one of the instances, Dr Otto says, so assured are the members of this family of the terrible consequences of the least wound, that they will not suffer themselves to be bled on any consideration, having lost a relation by not being able to stop the discharge occasioned by this operation.

In this paper, the sulphate of soda is mentioned as a remedy. "A few years since the sulphate of soda was accidentally found to be completely curative of the hemorrhages I have described: an ordinary purging dose, administered two or three days in succession, generally stops them, and by a more frequent repetition, is certain of producing this effect."

"Dr Rush," continues Dr Otto, "has informed me that he has twice been consulted, in the course of his practice, upon this disease; the first time by a family in York, and the second by one in Northampton County, in this state. He likewise favoured me with the following account, which he received some years since

from Mr Broadley, of a family in Maryland afflicted with this idiosyncrasy :—'A. B., of the state of Maryland, has had six children, four of whom have died of a loss of blood from the most trifling scratches or bruises. A small pebble fell on the nail of a finger of the last of them when at play, being a year or two old ; in a short time the blood issued from the end of the finger, till he bled to death.' The sister shows not the least disposition to this disorder, although scratched and wounded."

In *The Lancet* of 20th April 1839, there is a case mentioned in the clinical observations of Mr Liston, which had just been discharged from the hospital. "A farmer, 32 years of age, and temperate ; he is of the hemorrhagic diathesis, and he states that this is hereditary; that his maternal grandfather was of the same idiosyncrasy, and bled to death from a spontaneous hemorrhage taking place from the nose and mouth, after having been affected with fever. His mother is a little, delicate, fair-complexioned woman, but not of a similar diathesis. He has six brothers, all with the same peculiarity of constitution. None of his five sisters are affected with it. Four of his brothers, as well as the patient himself, have lost alarming quantities of blood at different times from the extraction of teeth. The hemorrhage was generally at length commanded by pressure, though in one instance the actual cautery was applied. The case of one of them is recorded by Mr Kendrick of Manchester Street, in the 5th volume of the *Medical Gazette*, p. 788. The bleeding from the socket of a tooth was so profuse, and returned so repeatedly, that the patient was reduced to the lowest ebb. Mr Kendrick at last succeeded in arresting the bleeding, by the application of pledgits of cotton wool soaked in the strongest spirit. The patient himself is a large, strong-made man, with a smooth, fair complexion, dark-grey eyes, dark hair, sandy whiskers, and pulse about 84. When about 19, he had a small wart cut from his lip, from which he lost so much blood that he fainted, and for some days after experienced great debility. He has, too, as stated, suffered from the extraction of teeth. Some weeks ago, he says he had a fall, and hurt his back and loins. Some days after, a pain came suddenly in the left groin, accompanied, also, with a pain in the thigh, shooting downwards to the knee. Upon examination, he found a swelling in the groin, upon which he took the advice of a surgeon, who ordered leeches and fomentations. Only two leeches were applied, the hemorrhage from which could not be suppressed till the occurrence of syncope. There is now a collection of matter in the left groin, of the size of the patient's fist. It was opened with the potassa fusa, and there was but slight bleeding. The blood was deficient in fibrine."