

ART. XIII.—*The Treatment of Aneurism by Compression, illustrated by Notes of Two Cases.* By JAMES H. WHARTON, M.B. Univ. Dubl.; F.R.C.S.I.; Surgeon to the Meath Hospital and County Dublin Infirmary, &c.

EVERY contribution to the important subject of the treatment of aneurism must be of interest and value to the clinical surgeon. The case immediately following is of no small degree of interest, as exhibiting the value of the "Dublin method" under peculiar circumstances; pressure, for about 1,000 hours, having failed to procure consolidation of the contents of the aneurismal sac, prior to the admission of the patient to the Meath Hospital. It is to be observed that, while under treatment in the M. Infirmary, he was informed that, as pressure had proved unsuccessful, the femoral artery should be ligatured, whereupon he determined to come to Ireland to have the operation performed. The case was under the charge of Mr. F. H. Collins, to whose unremitting care the favourable issue is mainly to be attributed.

The second case, which is very briefly reported, is placed on record for the purpose of noticing an event not devoid of physiological and pathological importance in the treatment of aneurism—suppuration of the sac. The patient, to whom the case refers, was admitted to the Meath Hospital in July of the present year, just four years after he had been discharged cured on account of an abscess in the right popliteal space. This abscess evidently was connected with the chronic dissolution of the sac. The leg was considerably swollen, but pain was scarcely appreciable. The patient continues to work as a labourer, although the abscess is not healed, and the swelling of the limb is still present.

CASE I.—*Aneurism of the Left Popliteal Artery.* Under care of Mr. Wharton. Reported by Mr. F. H. Collins, practising pupil.

J. K., unmarried, aged thirty-four, was admitted to the Meath Hospital, Sept. 17th, 1875. He was a healthy-looking man, of stout build. He had lived well, but was always sober in his habits; never had syphilis or rheumatism; never took mercury; is a great smoker. His occupation (printing) often compelled him to stand for many hours and to lift heavy weights, which he usually rested on his left thigh, but never felt any pain from this habit. On 22nd December, 1874, he fell and sprained his wrist, but did not feel his

leg injured. Five weeks afterwards he felt a slight pain down the back of his left leg, and, about the same time, a pulsation behind the knee-joint. This continued to increase, and a swelling appeared on the upper and outer part of the calf of the leg, the joint became a little stiff, and the hamstring muscles contracted, so that he could not straighten the limb. He was able to walk up to the 10th April, 1875, though suffering great pain, when he was admitted to the M. Infirmary, under the care of Mr. L.

Pressure was applied to the femoral artery in such a way that a pulsation could always be felt in the tumour, and potassii iodidum was given internally.

He says "the tumour was at least one-third larger then than when he came under Mr. Wharton's observation."

According to his account, Mr. L.'s treatment was as follows:—

Pressure was applied 12 hours daily for 28 days, when the pulsation ceased, as he was informed by Mr. L., and the tumour became much less in size. He remained in bed for 14 days longer in perfect rest, the limb being bandaged. After this he sat up, and often hopped about on the right leg for 8 days, when the pulsation suddenly commenced again.

Pressure was reapplied for 21 days, quietness not being strictly enforced. It then was given up for 8 days, reapplied for 21 days, yet no further change occurred in the tumour.

He remained under Mr. L.'s care for some time longer—in all about 4 months. His impression is that "the pulsation never completely stopped."

On Sept. 17th he was admitted to the Meath Hospital. A tumour about 3 inches in length, from above downwards, presented itself at the outer and inferior part of the popliteal space of the left leg. It extended a short distance down the calf, behind the head of the fibula, fusiform in shape, with a strong pulsation quite apparent to the eye. A distinct *bruit* was heard on auscultation. Opposite the tubercle of the tibia, the limb measured $15\frac{1}{4}$ inches. On examination the heart and lungs were found healthy.

Treatment.—Perfect rest in the recumbent position on a firm bed. The limb was bandaged with flannel, slightly flexed, and laid on the outer side, so as to expose the course of the femoral artery, to which pressure was to be applied, with a view of preventing the slightest pulsation being felt in the aneurismal sac. Bowels to be opened by *haustus rhei*.

Sept. 18th, morning.—Slept well; bowels moved.

R. Acidi gallici, gr. 60.

Glycerini, q. s.

Ut ft. pil., xii. equales.

St. unam ter die.

Read's and Signoroni's tourniquets to be applied alternately throughout the day. Diet: broth, extra milk. Smoking allowed. Evening.—Temp. of foot, 97°; pulse, 84; pulsation in the tumour stronger. Pressure applied for 10 hours 50 minutes.

Sept. 19th, morning.—Slept well; pulse, 88. Pressure to be applied as before. Evening.—Temp. of foot, 97°; pulse, 84; tumour feels a little more solid. Pressure applied for 11 hours 30 minutes.

Sept. 20th, morning.—Did not sleep much, though he had 30 m. liq. opii sed. Limb measured 15½ inches; pulse, 90. Evening.—Signoroni's tourniquet could not be borne, so at 12 noon Hoey's clamp was substituted. Read's instrument has caused a good deal of irritation. Temp. of foot, 94°; pulse, 87; slight pain in the calf of the leg. Pressure applied for 12 hours.

Sept. 21st, morning.—Had a bad night; pulse, 72. Ordered haust. rhei. Evening.—Patient was very restless all day, which caused the instruments to shift very often, and he could not bear them long on the same spot. Unsatisfactory pressure applied for 12 hours.

Sept. 22nd, morning.—Slept well; pulse quick; bowels moved. Evening.—Read's instrument was removed, as the spot to which the pressure was applied appeared as if about to slough. Digital pressure was tried for about 2 hours, but could not be maintained on account of the large development of the thigh, and thus offering so much resistance. Applied Signoroni's tourniquet at the superior end of Hunter's canal. Slight pain about the knee and foot. Pressure applied for 12 hours.

Sept. 23rd, morning.—Had a bad night, though he had 30 m. of guttæ nigræ; headache. Evening.—*No pulsation* in the tumour. Pressure has been applied for 70 hours 20 minutes. A short time afterwards the pulsation began again. Slight pain in the leg and sole of foot. Pressure applied for 12 hours.

Sept. 24th, morning.—Slept well; bowels moved; pulse, 72; pulsation in the tumour very slight. Even should no pulsation be felt in the tumour, in the evening the pressure was ordered to be reapplied. Evening.—*No pulsation*. Pain in leg and foot. Pressure applied for 12 hours; pressure reapplied for 5 hours.

Sept. 25th.—No pulsation. Numbness and pain through the whole limb. Pressure applied for 12 hours.

Sept. 26th.—No pulsation. Starting pains through the leg. Slight pressure applied for 12 hours. Pressure applied *altogether* for 111 hours 20 minutes.

Sept. 27th.—No pressure to be applied except when going to stool. To remain in bed with perfect rest.

October 1st.—Foot feels much warmer, and very slight pain and tingling sensation in it.

October 4th.—Slight pain through the leg and foot occasionally.

October 10th.—Sat up in bed for the first time. Ordered 3ii. wine.

October 16th.—Continues well. Ordered a pint of porter.

October 25th.—May go about on crutches.

Chart of Pressure.

		Hours.	Minutes.
Sept. 18th,	Pressure applied,	10	50
„ 19th,	„ „	11	30
„ 20th,	„ „	12	0
„ 21st,	„ „	12	0
„ 22nd,	„ „	12	0
„ 23rd,	„ „	12	0
	(N.B.—No pulsation for a short time.)		
„ 24th,	„ „	12	0
	(N.B.—No pulsation.)		
		82	20
„ „	Pressure reapplied,	5	0
„ 25th,	Slight pressure for	12	0
„ 26th,	„ „	12	0
		111 h.	20 m.

The tumour ceased pulsating after 82 hours 20 minutes of pressure.

CASE II.—Thomas Nolan, aged forty, labourer, admitted into the Meath Hospital on the 21st of June, 1871, suffering from popliteal aneurism of the right limb. He was a strong healthy man, and had lived a temperate life. His own history of his affection was that, about five years ago, he received a wound on

the inside of the knee from a bank of earth falling on him; since that time he had been subject to pain about the knee.

About a week before his admission he first noticed a pain in the instep. On last night, while turning in bed, he suddenly felt something give way on the back of the knee, and, on putting down his hand, noticed a pulsating tumour.

June 21st.—He was put to bed; his leg was bandaged, and the limb raised.

June 23rd.—Digital pressure was commenced at 10 o'clock a.m., and continued until 9 p.m.

June 24th.—Signoroni's tourniquet was applied this morning at 9 a.m.

June 25th.—An 8-lb. weight was to-day used alternately with Signoroni's instrument. These were changed about every fifteen minutes.

June 26th.—Read's tourniquet was put on to-day, and used alternately with Signoroni's.

June 28th.—Pressure was to-day kept up from 9 a.m. to 9 p.m. The tumour felt a little harder.

June 30th.—Pressure was kept up as before. The tumour was harder and more circumscribed.

July 1st.—Pressure was applied at 9 a.m. this morning. The patient complained of great pain about the knee during the night. The pressure was taken off at 9 a.m. Pulsation had then ceased. The tumour felt hard and very solid.

July 2nd.—No return of pulsation. The patient was still kept in bed.

July 6th.—Still in bed. Tumour smaller, and very hard.

July 22nd.—Discharged cured.