AN INAUGURAL DISSERTATION
ON
Hemorrhages and Hemostaties

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Hemorrhages may be divided into two classes, viz., active and passive, or otherwise into those depending upon augmentation of organic action, and those arising from debility. Bouchouras maintained that no spontaneous hemorrhage is passive. They are produced by increased action and effort of irritation of the blood vessels. They may occur with debility, but not from debility. He calls those only passive, which are owing to an external lesion of a blood vessel.

Hemorrhages by some have been divided into constitutional,
or those dependent upon organic
conformation, accidental, or
those produced by some advent-
rous cause. Supplementary,
or those developing a patholog-
aical state of some diseased
organ.

When active hemorrhage
takes place in any part, or is
interstitial, it becomes the
name of a laboring. This occurs
chiefly in the plethoric, and is
independent of disease.

High living, the use of spirit
us liquors, excessive exercise,
or too sedentary a life,
 exposes to the same. May
perhaps be ranked among
the predisposing causes of
This form of hemorrhage is commonly preceded by heaviness and increased pulsation in the part owing to the efflux of blood and consequent hyperventilation and coldness of the extremities. The blood at such times is generally of a florid color. In such hemorrhages, the great indication of treatment is to diminish the spastism which P. expects, and to speed the heart's action. Bleeding, fomentation, cold, &c. are the most available means. Morphines, asphyxiants, and the like have been much employed, but with little success.
Hemorrhages occurring in debility (which we will call spurious) may arise from a previous No of Blood vessels, a No of the Small vessels, or as the case happens. These hemorrhages are not preceded by excitement, or by any sign of Local determination. They are usually accompanied by paresthesia of the complexion, chill, stiffness, etc.

The indications of treatment will be to restore the action of the Small vessels, and the general tone of the system. Hence in this condition, the use of Trypotties, and cold externally, and of Tonics and
Stimulants—such as cresote, mineral acids &c.—internally.

Hemorrhages also occur from mechanical hyperemia, as where chemosis is produced by tubercles in the lungs, chronic fibrosis by disease of the tonsils.

But the variety of hemorrhage is designed principally to consider in this article as traumatic and its remedies. By traumatic hemorrhage, we mean those that occur in consequence of wounds of the arterial or venous trunks. The bleeding from one set of vessels is easily distinguished from that
of the other. If the bleeding proceeds from an artery, it is instant and rapid; the blood of a florid red color, and ejected as in a continuous stream, but per saltum. The arterial orifice remaining wide open through the elasticity of the arterial coats, and of the heart's inelastic being unbroken, made blood is lost in a very brief space of time from an artery of any considerable size, and farther circumstances, the nearer the wound is to the center of circulation, the more rapid the hemorrhage. In recent wounds, casual bleeding is their most alarming circumstance.
and the first to claim the attention
of the surgeon, with a view
to arrest it. The means suitable
for this end are termed
Demostrashes. They are of two
kinds—the work of nature, and
that of the surgeon.
When a vein is wounded, the
blood issues in a continuous
stream, of a dull, dark red color.
Do Jones by this
numerous experiments on animals
has demonstrated that the blood,
the action, and even the
structure, of the arteries
their sheaths and the cellular
structure connecting them are
all concerned in arresting
bleeding from a divided vein.
of moderate size. It is in the following manner: By the artery, as soon as severed, extract within its sheath, no violation of its elasticity, leaving the extreme portions of that sheath which does not retract being without the same elasticity, vacant, and rough of surface or that vacant space coagulum occur. Particles of fibrin becomes entangled and adherent to the rough points of the inner sheath, and these constitute as it were, nuclei on which others aggregate, to form a clot where it's extensive, or under it falls deep from the circumference to manner.
Although Dr. Jones supposes this to be a native mode of arresting hemorrhage when undisturbed, if the surgeon thinks there may be many causes to prevent this process, and instead of the two external and internal compara, he has but one. Ulterior as internal.
Of the surgical means of arresting hemorrhage, because they may be used when the surgeon is either unnecessary or unapplicable. It must be early, accurate, and steadily maintained. This in arteries is to be made at the proximal extremity of the divided vessel, and at some time required also at the distal, where there is collateral circulation.
The Tournairet, ligature with a sandage, compress, and the console figure of the thimble, are the means most reliable when circumstances favor their use.

The cautery, caustics, and tripes have a different mode of acting. The ancients mostly relied upon the actual cautery for arresting bleeding after the amputation of a limb. The hot iron was pressed over the bleeding surface until an eschar was formed, which checked the bleeding itself. At this time other means are almost out of use. The Tournairet probably deserves more consideration as a temporary means than any other appliance.
It offers a safe and effectual means of stopping the bleeding of an artery, when it can be applied at a point above the cut extremity. The invention of this instrument has advanced surgery to a wonderful degree. Accordingly no important operation could be undertaken on the extremities without placing the patient in eminent peril; and many wounds proved fatal, which with this simple contrivance would not have been attended with such danger. The sugariness of all hemostatic means is the most useless and unsatisfactory, and is not to be superseded or mistrusted, for eight reasons, in case of any consid-

able hemorrhage from arterial wounds. Although it is continued as having little or no use prior to the Tourniquet yet it seems that the ancients had no just conception of its importance. But now it is known to be a means which is safer and less painful. Their methods formerly in use, from the tourniqueting of a ligature around an artery, the internal and middle coats are divided, and the internal veins of the external are brought into apposition. Ligature is thrown only and sometimes in the course of a few hours the ligature may be removed, but it is safer to suffer it to remain a longer period.
When catheterized the coagulable will be sufficient to afford a
permanent resistance to any further hemorrhage. There are individual
cases of hemorrhagic tendencies that sometimes baffle the most
skilled treatment. With the signature Tourniquet, etc., cutting
cauterize, etc., hemorrhage, as in any other case, has been arrested by the
blood, and where a fatal hemorrhage occurred from the
extractions of a tooth. The patient, who was twenty-two years of age,
had a tooth drawn, with a screw, the consequence of which was the
holding continued twenty one days.
A very slight cut upon the head was also followed by an alarming hemorrhage; which could not be stopped by pressure, ligatures or signet rings. So it became necessary to use the Halliawee, which succeeded. And this having

and other means ofrkrope, a

profuse bleeding followed,

which resisted the effects of

sphygmias, caustics, and every

means to stop up the socket.

the actual cautery was tried in

vain.

The dangerous condition

of the patient seemed to leave

no other resource, but that of

tying the carotid artery, which

was done by Dr. Bradlee, but

over this failed to support the bleeding.
What eventually proved fatal.

There are also some curious instances of death from Leeto's pits.

In the Journal de Chimurgie, Dr. Bodès claims to have first brought into successful use the twisted tunnels to arrest bleeding from Leeto's pits. The patient was an English lady, thirty years of age, who had forty ladies applied to her abdomen.

After their withdrawal, tears of the pits continued to shed as if veins had been opened with a scalpel. She had lost all consciousness; immediate was impossible, and counter-irritation was not likely to succeed with such an abundant flow of blood.
Dr. Borda recollecting the manner in which veterinary surgeons close the veins after bleeding horses, decided to try the twist'd pincers. Pinching up the skin at the orifice of the cephal - he passed a small cambre needle through it, and passed a thread around. This was repeated at each orifice, and effectually arrested the bleeding. Dr. Borda has since frequently resorted to this plan, and always with success. Dr. Holland, quoted in the Journal of Medicine, has lately proposed another plan for arresting hemorrhage, from the ear pit. He forms a small ball of a medicine
of olive oil and yellow wax,

six parts of the former to one of

the latter. After washing the

blood from the wound, he

rapidly applies it to the bleeding

wrist, pressing and spreading it

with his fingers. If the adherence
does not immediately take place,

and the blood continues to flow

he adds a sufficient quantity of

the only mixture to form a cake

this mixture of oil and wax is thick-

and covering all the sites which

uneasibly succeeds.

Montague Gopee

publishes in the London Journal,

a still Simpler mode than the

one just quoted; and for which,

he claims both originality and
success. The day after wipping away the blood, apply quietly before any fresh oozing takes place, a piece of card about the size of a silver spoon, and in a circular form. A wetting card answers all necessary purposes. The glassy viscid being applied to the wound, this must be pressed firmly on the bite and held there about a minute. It will then become firmly glued to the surface, and will effectually resist all future hemorrhage. It seems that the albumen of the blood, glues the card to the surface, and thereby exercises sufficient pressure to close the orifice of the bleeding.
defects, and thereby reduce the hemorrhage.

Sorbon is also a mode of arresting hemorrhage, but it is in no way superior to the ligature, and is but little in use this country. It is only applicable to the small arteries. Transfusion is the
demestic resort in cases of serious hemorrhage. Warrantable
may demand, when circumstances are favorable for its
practice; and when there are
good prospects of the patient's alternate recovery, where the
immediate risk by the loss of blood removed. Blood from
a robust healthy person is
payable. The communication should be direct from the emitters to the recipient patient. Great care being taken to prevent air or coagulated blood from entering into the vessel of the recipient patient. From half pint to a pint will generally be sufficient to restore life and circulation. Rapid or excessive injection would be liable to overburden the heart, and produce serious consequences.

W. Harris