

*Foot - some more subject -
C.R.K.*

No. 172

AN
INAUGURAL DISSERTATION

ON
Hemostatic Agents

SUBMITTED TO THE
PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY
OF THE

University of Nashville,

FOR THE DEGREE OF
DOCTOR OF MEDICINE.

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OF
Tennessee

1855

W. T. BERRY & CO.,
BOOKSELLERS AND STATIONERS,
NASHVILLE, TENN.

Hemostatic Agents

Hemorrhage being the most common result of all injuries to which the human frame is subject demands very prompt and strict surgical attention for it would in many cases prove fatal without such aid. Medical practitioners must immediately resort to those invaluable remedies Hemostatic Agents which should be put into requisition in a calm and very deliberate manner without fear or alarm. This can only be accomplished by a confidence founded upon the means which are in their possession. If they have distinct knowledge of the agents which are to be employed at such times hemorrhage may be arrested that otherwise would prove fatal to the patient.

These remedies are of course various so

much so that someone will be found adapted to any case of hemorrhage that may call for surgical relief. The first that shall claim our attention is cold which proves very effectual in vessels of a small caliber or where there is general oozing of the Blood from the wounded surfaces. It may be employed in greater many ways the most common mode however is by wetting a piece of cloth or lint in cold water and applying it directly to the part. Care should always be taken to keep this constantly applied or it will act as a stimulant to the part and thereby aggravate hemorrhage. Showing very decidedly the importance of its continual application. This mode of treatment is beneficial in two ways first by contracting the vessels and thereby lessening

the circulation in the part by repelling the Blood from the surface towards the center also favors the formation of coagula - only it has a tendency to subdue inflammation and also favours adhesion of the part which has been wounded. Escharotics are used in the same cases of hemorrhage in which cold is resorted to. They may be either actual or potential - to employ the actual one must have a piece of Steel of proper shape so as to be precisely adapted to the part to be acted upon - it should then be heated to a white heat and applied to the bleeding surface the effect is produced by charring the parts and forming an eschar - which closes the mouth of the bleeding vessel. The Potential cautery is used more frequently than the actual - of this class the nitrate of silver

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is the most-frequently employed-it has a powerful-astringent effect on the art-
erial Tissues and besides induces coagulation
of the sanguinous and other fluids with
which-it comes in contact it constricts the
vascular orifices and covers them with an-
adhesive mechanical obstruction. This is a most
excellent-application in minor cases of he-
morrhage especially that from mucous
and cutaneous surfaces. It may often be tr-
usted to alone in cases of capillary oozing
or exudation it should then be employed
in a strong solution or the stick may be ap-
plied so as to form a coating over the Bleed-
ing surfaces. Tortion is also another mode
of arresting hemorrhage though not much
employed now as there are so many more
effectual-means. But when used it is
by drawing the arterial. Trunk out of the

wound to the extent of half an inch by means of a pair of forceps and with a second pair applied transversely by which the vessel is twisted upon it-self so as to rupture the internal coats of the artery which favours the formation of a coagulum and thereby the hemorrhage is completely arrested. Pressure is used when the ligature is either unnecessary or inapplicable especially when the hemorrhage is from two arteries of considerable size or even when there are a great many small ones wounded it may also act well in cases where there is a firm structure under the vessels such as Bone or Cartilage. Hemorrhage proceeding from an artery resting upon such textures can be arrested by pressure with a great deal of certainty. It should be applied in such cases very accurately and steadily taking care at

the same time not to employ any higher
 degree of pressure than is requisite lest the
 part may become congested and thus bad con-
 sequences ensue. Temporary pressure may be
 resorted to in the extremities applied by forcible
 flexion of the limb if the locality of
 the hemorrhage might seem to demand
 it. Pressure by the fingers may also be
 employed as a temporary means when there
 is a solid texture directly underneath the
 bleeding vessel. The Tourniquet invented
 by Morel stands first among ~~the~~ temporary
 means of arresting hemorrhage and is
 more relied upon by the profession than
 any other agent of this character. Having
 passed through the temporary agents
 for arresting hemorrhage by pressure we
 now propose to take up the more permanent
 means introducing in the first place the

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Conical Compress which is well adapted to deep seated vessels provided they have a solid texture beneath them. It may be applied in the following manner Take of Pessels of Lint - the first being adapted to the wounded vessel then apply one upon the other increasing in size until you have arrived at about one $\frac{1}{4}$ of an inch above the surface of the wound then lay a thick compress over the lint this forms a cone with the apex on the vessel then apply the roller Bandage from the extremity of the limb up to the compress very tightly and over the compress and above making it quite secure. This fitting the wound in every part and being concentrated acts with great pressure upon the vessel this dressing when satisfactorily applied must remain for three or four days

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then let the Bandage be removed with all the pledges except the one nearest the vessel which should be permitted to remain and kept in situ by the reapplication of the Bandage without quite as great a pressure as at first which last having remained several days more may be discontinued after the pressure has been removed the deep fossil of Lint should be permitted to come a way by suppuration. It often becomes necessary to arrest profuse hemorrhage from cavities such as the Nose and uterus for example, this may be done by pressure indirectly if there be hemorrhage from the Nose by what is called plugging first introducing a small stiff chord through the anterior to the posterior Nares then by a piece of soft sponge to the end first introduced and by gentle traction it is made to fit accurately the posterior Nares coming

in contact with the bleeding surfaces should
 this not suffice a second plug can be intro-
 duced in to the external orifices of the Nose
 thereby arresting hemorrhage from that cavity
 completely. Hemorrhage from the uterus may
 be treated in the same manner introducing
 the plug or as it is not commonly called the
 Tampon in to the vagina closing up entirely
 the mouth of the uterus and by the for-
 mation of a coagulum of blood often com-
 pletely arresting hemorrhage from that organ
 at full term. However the Tampon is
 more applicable in cases of hemorrhage
 from the uterus by abortion or when the
 foetus has not attained its full size it
 may be employed in such cases either
 indirectly or directly to the mouths of the
 bleeding vessels in the latter case a fine
 silk handkerchief has been employed

with success by being introduced into the cavity of the uterus. Of all hemostatic agents the Ligature which was first introduced into practice by Ambros Parre is considered to be the most permanent especially in vessels of the first class it is also relied upon in vessels of all sizes. There are two kinds generally used in practice the animal and silk fabric the former is better adapted to the smaller vessels and not considered as safe in the larger vessels as the silk Ligature which is more reliable and also more readily obtained therefore oftener used than the suture of the animal. The mode of applying it is by seizing the bleeding vessel with a pair of Forceps or Tenaculum the ligature being previously put around the beak of the instrument then the vessel should be gently drawn out from the surrounding Tis-

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sues in order that the noose made by the ligature may embrace it sufficiently high up to make it safe the ligature should be drawn tight by around the vessel so as to lacerate the internal-coats and afterwards made secure by making three knots in it then it should be elipt off at one end the other being left in the wound one end pendent from the wound which will be brought away by ulceration. However before this takes place there will of necessity be a clot of blood formed which will obliterate the vessel and thereby arrest the hemorrhage. Nauseants have proved to be very effectual in cases of internal-hemorrhage when not carried to the extent vomiting or to that of syncope. These means are especially valuable in hemorrhage from Mucous surfaces to which pressure ligature and the more-

direct Hemostatics are inapplicable the patient
 is made sick and faint so that the blood
 may circulate more slowly and gently in
 the wounded parts favoring coagulation in
 actual syncope reaction is likely to follow and
 bleeding may be reinduced. Neither is
 actual emesis sought for that includes violent
 muscular exertion and is also likely to be
 followed by reaction also favorable to blee-
 ding. Derivative bleeding from the arm has
 been practised for this purpose but
 nearly the same end may be obtained
 by the exhibition of such nauseants
 as Ipecacuanha or antimony and the
 important fluid spared. Rest including
 repose of both body and mind low diet
 cool drinks ices and the general regimen
 suitable for moderation of the circulation
 must not be neglected. The last resort

in perilous hemorrhage is Transfusion more
available may demanded when circumstances are
favorable for its practice and where there is
good prospect of the patients ultimate sur-
vival when the danger by loss of blood is
imminent that required to atone for the
existing deficiency must be immediately
supplied and can be only obtained from
a fellow being who is generous enough to
afford it. A syringe with suitable tubes
and Nozzles is made on purpose for the opera-
tion. This apparatus being well-adjusted
is brought in to the same Temperature
with the body an incision is made in
to a vein in arm of the patient of suf-
ficient size to admit the tube of
the instrument blood is there drawn from
the eminent patient as it flows in to
a basin it is steadily injected in to

The recipient care being taken - that no air or coagulum is permitted to enter the effects are closely watched and the amount of injection is regulated - accordingly on an average from half a pint to a pint will suffice to restore life and induce circulation.

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