

AN
INAUGURAL DISSERTATION

ON

Use of Silver as a Remedial Agent.

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

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DOCTOR OF MEDICINE.

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OF

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On

Nitrate of Silver as a Remedial Agent.

In selecting Nitrate of Silver as the subject of a Thesis, I have been principally influenced by its wide range of application in the treatment of diseases, internal and external. This extended range brings it within the province of the Surgeon as well as the physician; while he who concerns himself particularly with the "Pillar Disease" will find himself indebted to it for much of his success in the cure of those affections.

In view of observing over as far as the subject will allow, I shall first speak of its application to external affections, and secondly as an internal agent. In an external remedy I believe it is not inferior in value to any other in the hands of the Surgeon. While speaking of the application to external affections I include all diseases of the mucous

membranes of the mouth throat urethra
or uterus &c. as well as the surface of the body
generally. An oil application to many infla-
matory diseases of ^{the} eye, lunaticus is a so-
vereign remedy, and superior to all others. In
common catarrh of ophthalmia, it may be said
to be a specific, if any substance deserves that
appellation. In this assertion I feel that I am
borne out by the experience of the profession
at large. Mr. Lawrence who was formerly one
of the surgeons to the eye Infirmary in New
field found it the most valuable means
in the treatment of this affection. Dr. McC-
Kenzie of Glasgow states in the results
of his experience (and that was ample) that
this local remedy is decidedly superior
to any constitutional treatment, to which
he had occasion to resort. Mr. Melin's ex-
perience also amply justifies the remark, that
in the treatment of catarrh of ophthalmia,

no other substance which we are acquainted, is equal to the one we are considering. Dr Watson also to whom I am indebted for the facts above stated, gives the weight of authority to this practice. No other evidence is necessary to establish the superiority of nitrate of Silver, - treatment over all others in the affections alluded to. I may be permitted however to add my own testimony in its favor. I have never known it to fail, though it is just that I should say that my experience has not been extensive. In a case of chronic conjunctivitis, after the total failure of the ordinary astrigent collyria, such as the solution of acetate of Lead, sulphate of Zinc &c. I succeeded completely in removing the inflammation by one application of a strong solution of the nitrate. It acted violently on the membrane for a while, causing it to become more

injuncted than at first, but this condition,
with the original inflammation disappears
in the course of thirty six or forty hours,
Dr McKeen and Dr McNeil both agreed
in employing and recommending the solu-
tion of lunar caustic in the proportion of
four grains of the salt, to one ounce of dis-
tilled water. A drop of this solution is
to be dropped into the eye two or three
times @ day. It may be dropped into the
corner of the eye and the action of the lid
will diffuse it over the whole globe, bring-
ing it in contact with the whole extent
of the conjunctiva. A greater or less subsi-
dence of the inflammation will follow
each application of the solution, until
it is wholly subdued. The different va-
rieties of Pseudent ophthalmia are best
treated by conjoining their local stimu-
lating plan with the antiphlogistic treatment.

Mr Guthrie was the author of this
mode of treating these obstinate forms
of ophthalmia, and his honor it was attended
with the best success. Others have followed
Guthrie in this plan of treatment and
the experience of all who far as my reading
enables me to judge, afford sufficient pro-
of for all the faith we have expressed in
its efficacy. But in those forms of the
disease, a stronger preparation must be
used than is required in simple conjun-
ctivitis. Mr Guthrie's recipe was the fol-
lowing, ℞. Argent Nitro gr x

℞. Sep. pur ʒi

Mix -

The nitrate of Silver must be pulveri-
zed to an impalpable powder and then mixed
intimately with the lard. This Mr Guthrie
calls his ten grain ointment. Before apply-
ing it to the eye the discharge should be

removed from the eye by means of a solu-
tion of Alum. It must be so applied that
every part of the conjunctiva will have
its share of the ointment. The pain ca-
used by the application of the medicine ma-
y be allayed by means of warm narcotic
fomentations and the use of opium
internally to induce sleep. As topi-
cal remedy in superficial inflamma-
tion, no matter where situated, Lunaca
is the best to be used no less precise than when
applied to the inflamed conjunctiva.
Nor am I aware that its efficacy is
at all affected by the specific or non
specific character of the inflammation.
Nothing so far as my knowledge or
experience extends is so effectual in
arresting superficial and acute ophthalmia
as pencilling it around with these
lid coats. In applying ^{it in} this way

however, care should be taken not to
destroy the skin by the continued applica-
tion of the caustic; for if this be done
the inflammation set up by the ac-
tion of the silver may take on the character
of the erysipelas within the circle, as
it once has happened to a patient, as
in the case of Dr. H. of West of Virginia
and Ky. Being unskilled in the applica-
tion of such things, we let it remain so
long in contact with the skin as to
do three points, one the progress of the in-
flammation was promptly checked
every where else; it crept out of these points
to one continued its march to other points.
A little practice however will enable us
to avoid such a result, I do not pretend
to say that such would always be the
results of the too long continuance of the ce-
ment in contact with the skin, nor that

it would generally be so but that such
a thing may happen. I desire to lay
myself upon this suggestion, as I find
nothing said about it in the books,
and would like to know the results of
further experience in the matter. To prevent
such consequences, which are unpleasant,
not only that the application is
rendered thereby entirely nugatory, but
and ugly scars will show you in the
face for several ^{subsequent} years, and be a source
of almost as much annoyance to the
patient as to you! I would recommend
the application of a strong solution, by means
of a camel hair pencil, instead of the
solid caustic. I would reason a priori and
reason correctly. I believe, that when the
excipila is of a phlegmorous kind: or in
the cellia substance beneath the skin the
nitrate of silver would have but little force

to quiet it. The truth of this remark will
be agreed to, when it is remembered that
the caustic when properly applied, acts
only on the cuticle, or at least acts but
slightly on the true skin, and could not
be expected to arrest disease beneath it. It
has been recommended to paint the wh-
ole extent of the inflammation with a re-
solution of the caustic. Undoubtedly such
an application would have great power to
suppress the inflammation, but the ten-
dency of erysipelas to metastasis, renders the pro-
prietor of the plan somewhat questionable.
In mucous inflammation of the throat
and fauces, a resolution of lukewarm caustic is an
excellent application, and will generally
of its self be sufficient to arrest the in-
flammation, especially if it be not very
extensive. I have seen tonsillitis arrested by
three or four applications. Of course,

if the inflammation be severe or very extensive, Constitutional measures must be conjoined with the local treatment. Of the inflammation have its seat in the substance of the tonsil, our hope will be altogether disappointed, if not with the nitrate of silver for the cure.

My opinion is that nitrate of silver has no efficacy as a medicine except when it comes in direct contact with the part affected. Indeed I have imagined that it added to the existing mischief, when applied to inflammation extending beyond the mucous surface. In ulcerative affections of the mucous membrane of the mouth this article, applied by touching the ulcers with the point of the solid caustic is far superior to all others. I have seen these little ulcers after resisting ordinary astringent

application for some time, heal up rapidly
in the use of the caustic once or twice, as
directed above. Dr Coley of London says gon-
orrhoea is rapidly cured as its origin
by a few application of the nitrate of silver.
It is not to be trusted to, however, in
the more advanced stages of ^{the} affection.

The remedy in the adhesive treat-
ment of gonorrhoea and syphilis nitrate
of silver enjoys more popularity than
any other medicine. According to the
authority of Dr Eves, one that is no
mean authority, these diseases may
always be arrested if taken in time,
by the use of this article shown in
solution into the urethra, or applied in
substance to the vesicle as soon as it ap-
pears, in the case of syphilis, of course
if the disease, whether in gonorrhoea or
syphilis has existed for some time,

we may not expect to be successful by topical treatment alone. If it be syphilis, constitutional symptoms may come on, if not prevented by the proper internal medication, if suppressed, a sudden suppression of the discharge would, in all probability, result in inflammation of the testicle or some other part. I have succeeded in curing a case of gonorrhoea of some standing, by a persevering use of the nitrate of silver when other means had failed. But perhaps the most useful purpose, which nitrate of silver has been applied, is in the treatment of that class of diseases in which the unusual success of one accomplished and polite Professor of Obstetrics has offered a title that may be considered a sufficient guarantee for

honorable immortality to his name,
Dr. Bennett of London was the first
to introduce the practice of cauteriza-
tion in various affections of the ear
&c. According to him a large majority
of cases of prolepsis otitis, depend on
enlargement and ulceration of the os,
which may generally be cured by
the use of caustics more or less pow-
erful, applied according to the intensi-
ty and character of the disease to the
diseased surface. Sticks of silver paper
is a very important part in this treat-
ment. I might quote here Dr. Bennet
his admirable treatise, the first case which
he gives, as showing the character of cases,
in which the article we are considering,
is used with most benefit, as well
as his method of making the application.
But it is not necessary, I'll give one

more case of its external effects, and then
proceed to give its internal use.

Stibite of Silver, is also an invaluable
remedy for burns and scalds. Having
noticed in ^{the} Knoxville Medical Journal
of its application in these cases, by Dr.
W. B. Phillips, I have had oc-
asion to use it, in two cases, one
of deep, and the other of superficial burn,
and I have been equally surprised
and gratified with its results. It furn-
ishes a complete protection to the in-
flamed surface, subdues the pain, and
the serious discharge, changes the char-
acter of the inflammation, and prom-
otes a speedy cure. For superficial burns
a strong solution. 20 to 40 gr. of the
stibite to the oz of water, applied with a cam-
els hair pencil. If the Burn is deep
and the discharge of serum abundant,

the entire surface of the ulcer should
be touched lightly with a solid stib.
As an internal remedy this article
has not received as much attention
perhaps as it deserves. It is proved
that it - deserves almost as much praise
in certain inflammatory affections of the
mucous membrane of the elementary
canal, as it does in ulceration of the
uterine neck or aperture of mouth.
The only disease in which this
medicinal has acquired any popu-
larity as an internal remedy is
epilepsy. Nothing perhaps had ac-
quired all the celebrity in the trea-
ment of this inveterate disease, as lu-
nar dust. Many authentic cases
of cure, by the use of it are on re-
cord. Its failure in a majority of
cases, is nothing more than

should have been looked for. But it does not agree @ some philosophy in us on this account to reject it altogether as wholly inert in the treatment of this formidable affection. No man ever with any justice deny that it has been administered successfully in epilepsy. It seems us then as true medical philosophy to set about determining the true pathology of those cases in which it has been found successful. It is well known that the brain and stomach are so intimately associated in sympathy, that the one seldom suffers to any great extent, without the other being involved in the same. Every one knows that @ Blow on the head will often produce vomiting and that @ Blow on the epigastrium will impart such a shock to the nervous system as to produce instant death. Every practitioner

of medicine has no doubt witnessed
cases of convulsions dependent on the pres-
ence of irritating substances in the alimen-
tary tract. Worms in the intestines
are frequently the cause of convul-
sions in children. I have seen a new
born infant affected with every sym-
ptom of epilepsy not of one, however
meanly, but many, and at intervals
of ten or twelve hours, entirely relieved
by a few doses of colomel, each dose fol-
lowed at the proper interval by castor oil.
The question then, may not epilepsy
in many cases be a secondary affec-
tion, dependent on irritation of the alimen-
tary canal somewhere in its extensive
tract, as the primary disorder strikes me
of being one of no mean magnitude.
If the proposition involved in the q-
uestion be true, the empirical mode

of treatments generally adopted in this disease, would, it could be, to some extent at least medicated. The pathology of this disease is often very generally very obscure, and frequently when we come to make our post-mortem examination no apparent alteration of structure whatever is found in the brain, to account for the existence of so violent disease. Many such cases beyond the possibility of doubt, depend entirely on the sympathy of the nervous system with some local irritation, as to elude detection when the post-mortem inspection is made; and if the attention of the physician were directed to the state of the stomach and bowels, as well as, to the brain the pathology of many cases would be rendered less obscure.

I'll follow the pathology of this disease no farther, which is

stopping rather abruptly, I'll admit,
as much more might be said. Many
cures are reported, as having been effec-
ted by the use of this article, and its oc-
asional efficiency in purely function-
al cases of the disease can scarcely be
doubted. It should be given at first
in doses of one quarter or one third of a
grain, three times a day, to be genera-
lly increased to one or two grains.
The mucous membrane of the stomach
may be corroded, and a permanent
dark stain appear on the skin, which
is one great objection to its internal use.
Nitrate of Silver has been administered
internally in other diseases than these
I've mentioned, but I need not com-
pare them mention them here. They
are Chorea, erysipelas, puerperal, dropsy, Gonorrhoea
&c. I might write a great deal

more upon this interesting subject. But
hoping, the length and views here gi-
ven, will meet the approbation of my
honorable faculty, I'll close.