

**Disputatio medica inauguralis de hepatitide acuta ... / Eruditorum examini subjicit Gulielmus Stott.**

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DISPUTATIO MEDICA  
INAUGURALIS  
DE  
HEPATITIDE ACUTA.

DISPUTATIO MEDICA  
INAUGURALIS

DE

HEPATITIDE ACUTA.

GUILLIUM MOTT,

EDINBURGI:  
EXCUBITANT ABERNETHY & WALTON.

1807.

DISPUTATIO MEDICA

DE

HEPATITIDE ACUTA

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DISPUTATIO MEDICA  
INAUGURALIS,  
DE  
HEPATITIDE ACUTA;

QUAM,

ANNUENTE SUMMO NUMINE,

EX AUCTORITATE REVERENDI ADMODUM VIRI,

D. GEORGII BAIRD, SS. T. P.  
ACADEMIÆ EDINBURGENÆ PRÆFECTI;

NECNON

AMPLISSIMI SENATUS ACADEMICI CONSENSU, ET  
NOBILISSIMÆ FACULTATIS MEDICÆ DECRETO;

*PRO GRADU DOCTORIS,*

SUMMISQUE IN MEDICINA HONORIBUS AC PRIVILEGIIS;  
RITE ET LEGITIME CONSEQUENDIS;

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ET SOCIET. REG. PHYS. EDIN. NECNON

SOC. RER. NAT. ET CHEM. STUD.

SOC. EXTRAORD.

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*“Fervens, difficili bile, tumet jecur.”*

HOR.

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*VIII. Kalendarum Julii, horâ locoque solitis.*

EDINBURGI:

EXCUDEBANT ABERNETHY & WALKER.

1807.



DISPUTATIO MEDICA  
INAUGURALIS,  
DE  
HEPATICIS ACUTIS;

QUAM,

ANNUENTE SUMMO NUMINE,

EX AUCTORITATE REVERENDI AMBROSII VITI,

D. GEORGII BAIRD, SS. T. P.  
ACADEMIE EDINBURGENSIS PRAEPOSITI;

REGRO

AMPLISSIMI SENATUS ACADEMICI CONSENSU, ET  
NOBILISSIMAE FACULTATIS MEDICAE DECRETO;

PRO GRADU DOCTORIS,

ADMISISQUE IN MEDICINA HONORIBUS AC PRIVILEGIIS,  
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EXAMINANDI SUBIJCIET

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SOCIETATIS REGIAE MEDICAE EDINBURGENSIS SOCIUS,

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102. EXTRAORD.

1807.

VIII. Kalendas Junii, hora octavae solis.

EDINBURGI:

RESPONDENT ALEXANDER & WALKER.

1807.

REVERENDISSIMO  
IN CHRISTO PATRI,  
AC  
HONORATISSIMO DOMINO,  
**D. THOMÆ,**  
*DROMORIENSI EPISCOPO,*  
HAS STUDIORUM PRIMITIAS,  
OB MULTA  
IN EUM SUOSQUE BENEFICIA,  
EA, QUÆ PAR EST, OBSERVANTIA,  
D. D. CQUE  
AUCTOR.

REVERENDISSIMO

IN CHRISTO PATRI

AC

HONORATISSIMO DOMINO

D. THOMAE

DROMORVENSI EPISCOPO

HAS STUDIORUM PRIMITIAS

ON MUTUA

IN EUM SUORUM BENEFICIA

EA QUA PAR EST OBSERVANTIA

D. D. CURA

AUCTOR



VIRIS SPECTATISSIMIS,  
ANDREÆ DUNCAN, M. D.

*MEDICINÆ THEORETICÆ*

IN HAC ALMA ACADEMIA

*PROFESSORI,*

PRO GRATIA ET URBANITATE

QUIBUS EUM DIGNATUS EST,

SEMPER COLENDO ;

NECNON,

ROBERTO ANDERSON, M. D.

PRO AMICITIA ET CONSILIIS

QUIBUS STUDENTI FAVET ;

HOCCE TENTAMEN,

SACRUM VULT

*AUCTOR.*



VIRIS SPÉCTABILISSIMIS

ANDRÉE DUNCAN, M.D.

MEDICINÆ THÉORÉTICÆ

IN HAC ALMA ACADEMIA

PROFESSORI,

ERGO GRATIA ET URBANITAS

QUIBUS TU N. DIGNATUS EST,

SEMPER COLENDO;

AGNOŒ

ROBERTO ANDERSON, M.D.

PRO ANGIPTIA ET CONSULTIS

QUIBUS STUDENTIA FAXIT

HOCCÉ TRAYAMEN

BARREN TUIT

AGNOŒ

# DISPUTATIO MEDICA

## INAUGURALIS

DE

# HEPATITIDE ACUTA.

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**E** MUNERE summi momenti quo fungitur hepar, varios hujus organi morbos, inter quos inflammatio eminet, maximam medicorum attentionem optimo jure exposcere manifestum erit. Et sane non solum recentiores, sed antiquiores quoque medici, ad Hepatitidem investigandam acriter incubuerunt. Hujus morbi historia accurata admodum et fere absoluta, quam ab his accepimus, hodiernis parum aucta est. Satis igitur mirum est medicos Græcos, quos neque natura neque sedes hujus morbi latuit,



eum ἥπατιχοι nominasse, cum, ut SALMASIUS admonuit \*, inflammationem cujusvis partis, nomini ejus *itis* addendo, distinguere apud hos usitatum fuit.

Hic morbus in regionibus calidis, et præsertim in India Orientali, sæpissime sese ostendit; circa oras Coromandelæ † maxime sævit, et inter endemicos hujus peninsulæ Europæis infestissimos recenseri debet. Etsi in regionibus magis ad septentrionem vergentibus multo minus frequens est, non tamen in his tam raro in conspectum venit, ut quibusdam medicis claris persuasum fuit. Nec desunt qui nullum hujusmodi morbum revera existere contendunt; cui sententiæ addictus est HOFFMANUS ‡, qui hepatitidem auctorum, febrem rheumaticam solummodo habendam esse, asserere haud dubita-

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\* Epist. xxxvi. pag. 79. CÆL. AURELIANUS, lib. iii. cap. iv. 443.

† LIND on Diseases of Hot Climates, Chap. iii. ; etiam CLARKE on the Diseases of the East Indies, vol. ii. chap. vii. pag. 403.

‡ Opuscula Pathol. Pract. Dissert. xviii. pag. 232.

vit; et phlegmonem hepatis, si non omnino fictum, morbum saltem esse rarissimum perhibet. Quantum erraverit, quotidiana medicinam facientium experientia docet. E facie admodum varia quam hepatitis induere solet, medici e tempore GALENI\*, conjecturis de utriusque causa ducti, plurimas ejus species, medendi rationem diversam postulantes, proposuerunt. BIANCHUS † præsertim multas hujus morbi varietates descripsit, quas utpote nullo valido fundamento nitentes auctores hodierni rejecerunt, et divisionem clarissimi CULLENI ‡ in duas species, *acutam* scilicet et *chronicam*, rationi multo magis congruam, amplexi sunt; quarum priorem in hoc opusculo perpendere consilium est.

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\* Opera omnia, Class. iv. Chap. vii.

† Historia Hepatica, Tom. ii. pag. 204.

‡ Synop. Nosolog. Method. pag. 248.



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**DEFINITIO.**

INTER definitiones hepatitidis acutæ, haud paucas quas nosologi\* protulerunt, nulla est accuratior nec magis concinna quam hæc a nosologia CULLENI † deprompta.

“ Pyrexia, dolor hypochondrii dextri, tensio et dolor sæpe pungens instar pleuritici, sæpius obtusus, dolor ad claviculam et summum humeri dextri; decubitus in sinistrum latus difficilis; dyspnœa; tussis sicca; vomitus; singultus.”

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\* SAUVAGESII, p. 13. LINNÆI, p. 52. VOGELII, p. 36. SAGARI, p. 104. edit. 7ma. CULLENI Nosol. Syst. Method.

† Synop. Nosolog. Method. p. 248.

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**HISTORIA.**

HEPATITIS nonnunquam clanculum obrepit, et vitæ insidiatur, antequam natura morbi, quo tenentur, ægris innotescat. Plerumque autem solitis pyrexix signis, horroribus nimirum, capitis dolore, languore et nausea ingruit. Hæc dolor et tumor hypochondrii dextri, sine ulla tamen partis externæ coloris mutatione, brevi excipiunt, vel ab initio comitantur. Hæc signa, prout pars hepatis convexa aut concava inflammatione correpta fuerit, haud parum variant. Cum pars convexa laboret, tumor plane percipitur, et dolor acutus et pungens, pressura adhibita, multum intenditur; pulsus plenus et validus evadit; magna est anxietas; haud levis spirandi difficultas, inspiratio præsertim difficilis, quæ dolorem multum adauget; tussis molesta, vel potius, ut ARETÆUS \* jure monet, tussiendi desiderium sine ulla expectoratione;

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\* De Causis et Sig. Acut. Morb. Lib. ii. Cap. vii. p. 14.



facies turgida est, et interdum colore ad purpureum vergit; alvus astringitur; urina turbida et parca, sedimentum lateritium deponit; dolor e decubitu in latus sinistrum multum augetur; et haud raro fit ut æger, nisi supinus cum capite demisso, decumbere nequit.

Cum inflammatio inferiorem et concavam hepatis superficiem occupat, nullus tumor percipi potest; dolor lateris fixus, obtusus, et profundus est cum ponderis sensu; pulsus frequens, parvus et mollis; abest dyspnœa et tussis; facies et cutis colore flavescunt; ventriculus vomitu et cardialgia admodum molesta facile tentatur; alvi dejectiones, ad eas quæ in dysenteria exprimuntur, accedunt; mens mœrore graviter depressa est; et insignis virium prostratio urget. Et sane, ut paucis expediam, partis convexæ inflammatio ad pneumoniam et partis concavæ ad gastritidem signis appropinquat; ita ut dubia horum morborum indicia medicos usu artis apprime versatos nonnunquam fallant\*.

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\* MORGAGNI, de Sed. et Caus. Morb. Epist. xx. § 31. 32.

Inflammatione et dyspnœa ingravescentibus, dolor hypochondrii dextri per thoracem usque ad claviculam et summum humeri dextri, nonnunquam tamen sinistri, propagatur, qui interdum ut CELSUS\* perhibet, ejusdem lateris manus torporem quoque infert. Cum dolor ad summum humeri adest, parti hepatis laboranti respondit, ut GIRDLESTONE affirmat: hinc si pars illius anterior dolet, eandem hepatis partem inflammatione esse correptam concludere liceat †. Hicce humeri dolor, spasmodum instar, certis intervallis interdum revertitur. Si his signis molestis remediis tempestive adhibitis non cito occurritur, vel si evacuatione quadam, ut epistaxi, sputo mucoso, sudoribus, hæmorrhoidum fluxu, vel urina, quæ raro post tertium quartumve morbi diem eveniunt, non solvuntur, omnia signa brevi graviora evadunt. Spirandi difficultas præsertim intenditur, et sensus est quasi septum transversum et pleura deorsum traherentur. Lingua fit nigra, et ulcera in faucibus conspiciuntur. Alvus liquida

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\* Lib. i. Cap. viii. p. 73.

† Essay on Hepatitis, p. 12.



et biliosa parcius solummodo dimittit, quæ dysenteriaë dejectiones ita æmulantur, ut cum hoc morbo confundi potest. (Dysenteria, præsertim species ejus chronica, communi medicorum sententia sæpius hepatitidis symptomatica est; et dysenteriam ex insolatione ortam ad vitium hepatis in omni exemplo esse relegandum affirmare haud dubito. Et quædam illius morbi exempla, iis, quæ in hepatitide conveniunt, debellata, postquam remedia morbo idiopathico accommodata infeliciter adhibita fuere, huic opinioni fidem conciliant. Quæ quoque GIRDLESTONIO et M'GREGOR cadavera scrutantibus apparuerunt, hanc sententiam confirmant; sic enim hic habet: "On opening the bodies of those who died of tropical dysentery in Egypt, as in India, we almost constantly found the liver diseased.") Arteriarum pulsus citiores et frequentiores evadunt, vires penitus collabuntur, facies bile quasi suffusa squallet. Hæmorrhagiæ nunc interdum, sine ullo signorum levamine, occurrunt. Mens nunc omnino labefactata aberrat, et omnia pessima fingit; delirat: Inquit HIPPOCRATES, "Cum dormit per somnum exilit, et terretur cum

“ insomnia horrenda vident. Hæc quidem ad  
“ hunc modum patitur, interdum vero per totum  
“ diem ac noctem voce deficitur, jacet cum mul-  
“ ta et confesta respiratione. Cum delirium qui-  
“ evit, statim e vestigio mentem redit; et si quis  
“ eum roget confestim eum respondet, et omnia  
“ quæ dicuntur intelligit; deinde rursus paulo  
“ post in iisdem doloribus decumbit.”

Febris hectica, singultus suffocationem mini-  
tans, et alvi dejectiones atræ et biliosæ nunc su-  
perveniunt. Symptomata supra memorata ad  
septimum, et in nonnullis exemplis ad undeci-  
mum usque diem ægrum miserrime exercent,  
qui gravissimis malis tandem obrutus animam  
efflat.

“ Mens labat, et diri sequitur mors plena doloris.”

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### TERMINATIONES.

Hic morbus raro mortem subito infert, nisi  
in regionibus calidis, vel remedia perperam ad-



hibita fuere. Eosdem exitus habet, qui aliis inflammationibus ut plurimum contingunt; hepatitis enim vel resolutione vel suppuratione, vel scirrho, rarissime autem gangræna finitur. Resolutio raro evenit, et solummodo in iis exemplis ubi signa leniora fuere; post tertium vel quartum morbi diem, vix expectanda est. Hæc terminatio, vel idoneis remediis, vel quibusdam evacuationibus sponte obortis, ut jam dictum est, fieri potest; hinc, sanguine e naribus vel vasis hæmorrhoidæis prorumpente, muco screatu rejecto, sudore, qui lintea colore flavo tingit, urina sedimentum lateritium uberius præbente, vel diarrhœa biliosa, solvitur. Ex his, epistaxis vel hæmorrhœis resolutionem sæpius comitatur. Ex harum enim partium vasis, membrana admodum tenui obductis, congestione facta, sanguis facilius erumpit.

Hepatitis suppuratione sæpius finitur, præsertim in regionibus calidis. Nullum enim est abdominis viscus quod in suppurationem tam facile abit, ut clarus PRINGLE monet. Si signa graviora diutius perstiterint, et nulla resolutionis indicia ante septimum vel octavum diem ob-



servata fuere, morbum in suppurationem esse desitutum suspicari fas est; jam factam esse, testantur doloris remissio, et ponderis et fluctuationis sensus, quæ multo magis evidens est, modo abscessus in anteriore et convexa hepatis superficie adfuerit. His quoque signis, horrores frigidi et febris hectica comites sese adjungunt. Abscessus partibus vicinis fere semper accrescit, quod, ne pus in abdominis cavum effunderetur, impedit; diversis igitur modis exitum sibi ponat, prout abscessus sedem diversam occupaverit. Cum enim tumor extrorsum vergit, adhæsione inter hepar et parietes abdominis facta, in eum incidere liceat, qua pus exeat cum summo ægri emolumento. Adhæsio sæpe inter hepar, diaphragma, et imam pulmonum superficiem fit, et materia purulenta in pulmones subito effusa vel suffocationem statim infert, vel si minori copia collecta fuerit, et tardius in bronchias ruat, exscreari queat, haud sine signorum levamine; raro autem salutis munera redeunt\*, hectica enim nullis remediis vincenda

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\* Vide Appendix.



supervenit. Cum autem facies hepatis concava inflammatione tentata partibus vicinis adhærescat, pus, in ventriculum, colum, vel duodenum vel recta vel ductibus\* effundi potest. Dr GREGORY † hujus morbi exemplum se vidisse narrat, in quo hydatides per alvum dejectæ fuere. Si nullus inter hepar et partes vicinas nexus intercedat, pus in cavum abdominis erumpit, et ascitem purulentam morte finiendam progenerat.

Hepatitis in scirrhum sæpissime abit, præsertim in regionibus frigidis; et hæc morbi finis jure timenda est in iis exemplis ubi signa mitiora diutius duraverunt. Manifesta febris remissio, anxietas in hypochondrio dextro, dolore lancinante, vel potius pruritus sensu comitata, qui pressu multum augetur, et per intervalla redit, scirrhum adesse docent. Hepar duritie et mole adauctum sæpe manu explorari potest, cum æger, genibus reductis, in dorsum decumbit, qua musculi abdominis laxiores fiunt. Gin-

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\* CULLEN'S Practice.

† Audi Prælect.

givæ præter solitum indurescunt; et tunica oculi albuginea colorem minus splendentem vel potius bile flavescens induit; fauces arescunt, et sitis assidue recurrens ægrum vexat. Humeri elatiores evadunt. Alvus compressa est; et quæ dejiciuntur, colorem luteum exhibent. Mens demissa est. Scirrhus hepatis ascitem sæpe concitat.

Gangræna rarissime evenit; si autem symptomata insolita vehementia sæviant, nullus remediis fuganda, ne supervenerit timendum est. Cum dolor subito decedit, pulsus admodum frequens et debilis evadit, sudores viscidi et gelidi erumpunt, extremæ corporis partes inalgescunt, singultus vehemens, syncope, et sedes fœtidæ, nigræ et biliosæ, gangrænam jam obtinuisse demonstrant.

Præter gangrænam, de alia et admodum rara hujus morbi terminatione auctores mentionem fecerunt; *metastasi* \* enim ad lienem facta, vel

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\* BIANCHI Hist. Hepat. tom. i. pars iii. p. 434.



cutis erisipelate superveniente, eum interdum finiri contendunt. Hoc autem perraro, si unquam, evenit.

Quod ad tempus attinet quo terminationes supra memoratæ accedant, hoc e vi morbi, corporis habitu, ægri temperamento, medendi ratione, tempore anni, necnon cœli regione, multum pendebit.

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### CADAVERUM SECTIO.

NULLUS alius est morbus in quo plura vel magis diversa, cadavera inspicientibus semel obtulerunt. Hæc ad tria capita, ad morbida scilicet, quæ ex inflammatione, e scirrho, et e supuratione in conspectum veniunt, haud inepte relegari queant.

1mo, Cum membrana hepatis externa inflammatione correpta fuerit, colorem floridum ostendit, et vasis sanguineis referta apparet; quam in statu sano quoque crassior est, et superficies

ejus insolita lymphæ copia obducta est, qua cum partibus vicinis concreascet \*.

Dr BAILLIE† affirmat, adhæSIONEM sæpius in anteriori hepatis facie formari, qua ei peritonæi parti, quæ musculos in superiore abdominis parte investit, adnectitur. Superficiem autem hepatis posteriorem ventriculo et duodeno adhærentem, hic clarus et peritissimus anatomicus haud raro deprehendit.

Cum substantia hepatis inflammatione laborat, magnitudine maxime variat. Ita nonnun-

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\* Sequens insigne adhæSIONIS exemplum scriptis tradidit P. SANDIFORT: "Peritonæum cum aperire vellem, ut interiora conspicerentur, mira occurrebat partium cohæSIO: omentum, hepar, ventriculus, lien, intestina tenuia et crassa, tali concreta erant modo, ut nullo modo separari potuerint, etiamsi culter adhiberetur: ilei intestini portio parva, pedem vix longa, paulo infra umbilicum, libera erat, et ureter hanc nihil omnino distingui poterat: adeo firmiter cohærebant omnia, ut massam informem referrent, et penitus fuerunt dilacerata, quando ab invicem separari vellem. Receserat lien a peritonæo; ibi loci ubi diaphragmati thoracis margini accumbenti, adhæret, crasso et cartilagineo, sic ut spatium quoddam esset relictum duos ad minimum pugnos capiens, intra quod purulenta materies antea videbatur fuisse collecta."

† Morbid Anatomy.



quam intumescit, ut non solum dextrum, sinistrum quoque hypochondrium penitus repleat, et diaphragma sursum urgens respirationis munera fere e toto impediat. Haud raro neque structura, moles, nec color ejus, ullam mutationem attentione dignam subeunt. Colorem autem alta purpureum interdum ostendit. Hepar in nonnullis exemplis, præter solitum, molle observatum fuit\*.

2do, Suppuratione facta, abscessus qui totam unius hepatis lobi substantiam plerumque occupet, detegitur, dum membranæ exteriores corio communi haud crassiores testam referentes, in quibusdam partibus prominentes, et quasi reticulatæ favi ad instar apparent †. Alias plures abscessus minores varias hepatis partes obsident; materia qua replentur, multum differt, modo enim pus bene formatum, modo aquam qua raro elota fuerit, refert ‡. Dr LIND exemplum memorat, in quo materia collecta tam acris evaserat, ut non

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\* HALLER'S Elementa Phys. tom. vi. p. 455.

† DUNCAN'S Med. Comment. vol. iv. decad. 2.—321.

‡ BONTIUS De Morb. Ind. Orient. p. 36.

solum cartilagineas, sed etiam costas ipsas erosas solvebat \*. Magna puris copia in hujusmodi abscessibus nonnunquam congeritur. Dr CLARKE exemplum protulit in quo sex libræ et amplius excernebantur †.

Stio, Hepar scirrhus affectum species admodum diversas quoque exhibet, quarum plures, in Museo clarissimi Professoris MONRO præstantissimo collectas, videndi mihi facultas fuit. Interdum omnis lobi pars scirrhus tentata, et magnitudine vel multum auctâ vel imminutâ conspicitur. Dr GREGORY illustrissimus in uno exemplo hepar octodecim libras pondere exsuperasse et in alio viginti uncias vix adæquasse, narrat. Dr WADE hæc verba habet: “ It is very extraordinary that in some cases wherein I have found the liver uncommonly enlarged, so as almost to annihilate the contents of the thorax, the breathing will have remained apparently natural; while in others, where the size of the liver is asto-

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\* On the Diseases of Hot Climates, Part i. Chap. iii. 95.

† DUNCAN'S Med. Comment. Vol. iv. Decad. 2. 322.



nishingly diminished, which is often the case, the breathing is uncommonly laborious \*.”

Hepar sæpe tuberculis corruptum est, quorum plures varietates Dr BAILLIE descripsit, et ea inter frequentissima hujus visceris mala, si adhæsiones excipias, enumeranda esse censet. Hepar favi speciem exhibens in India Orientali haud raro se in conspectum dat †.

Hydatides magnitudine multum discrepantes, et sacco sæpe tam valido, ut cartilagine structurâ referat, involutæ sæpe observatæ fuere.

LIND et MORGAGNI soli sunt auctores quibus hepar putredine infectum occurrebat : illi putridum, favum referens, sese obtulit, huic autem superficiem pallidam maculis lividis et gangrænosis distinctam, sine ullo abscessu exhibuit ‡.

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\* On the Prevention and Treatment of the Diseases of Bengal, p. 133.

† LIND on Diseases of Hot Climates, Part i. Chap. iii.

‡ Ibid. Part i. Chap. iii. p. 95.

De Sed. et Caus. Morb. Epist. xxxvi. Art. 12. 190.

Morbidis igitur quæ cadaverum incisio hepate detexit, breviter enarratis, pulmones, et ventriculum inflammationis indicia subinde ostendere monendum restat. Lien quoque quam hepar ipsum vitia haud minus diversa ostendit \*. Vesica fellea et ductus hepatis varias morbidas mutationes subeunt, illa enim bile nigrescente turgida et præter solitum ampla sæpe reperitur, dum hi magis minusve solito capaces, et nonnunquam impervii inveniuntur.

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### RATIO SYMPTOMATUM.

*Hypochondrii dextri tensio et dolor.*—In omni inflammatione, dolor e vasis præter ordinem distentis repetendus est; sanguis enim in ramulos arteriarum uberius influens, harum fibras musculosas distendit, et dolorem et tensionem infert.

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\* SANDIFORT. Med. et Chirurg. in Acad. Batavæ, Lib. ii. Cap. iii.



*Dolor ad claviculam et summum humeri dextri.*  
Hujus signi explicatu minime facilis, auctores varias rationes reddiderunt. Nonnulli id ad sensum peculiarem e peritonæo inflammato ad pleuram propagatum, qui ad summum humeri perventus, dolorem ciet, relegarunt. Alii autem id meliori ratione e nervorum consensu deducunt; nervi enim tertii et quarti cervicis hepar adeunt.

*Decubitus in latus sinistrum difficilis,*—ponderi hepatis inflammati partes subjectas gravantis, cum æger in latus sinistrum reclinat, attribui potest; ligamenta quoque in hac corporis positurâ magis tensa dolorem adaugeant.

*Tussis et dyspnœa.*—Quodcunque pulmones irritat, ad tussim concitandam valeat, in hoc exemplo hepar inflammatum pulmonibus vicinum irritationem præbet, et liberum diaphragmatis descensum impedit. Interdum quoque inflammatio usque ad septum transversum, et etiam ad imam pulmonum partem prorepat, quod gravio-rem spirandi difficultatem inducit.

*Vomitus.*—Cum maxima pars dextri et totus lobus hepatis sinister ventriculo incumbit, superficiem ejus concavam inflammatione correptam, ventriculum urgere et nauseam et vomitum concitare patebit. Vomitus biliosus ex inverso duodeni motu pendet.

*Singultus.*—Inflammatio partis convexæ hepatis irritationem septo transverso admovet, quâ motus hujus musculi abnormes concitantur.

*Flavedo cutis et oculorum,*—ex inflammatione ductum hepaticum comprimente, quâ exitus bili denegatur, ortum ducit. Vasa enim hepatis absorbentia eam in sanguinem circumfluum vehunt, qui bile inquinatus cuti colorem flavum impertit.

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### CAUSÆ PRÆDISPONENTES.

EUROPÆI in regionibus calidis, et præpripri-  
mis in India Orientali degentes, huic morbo ad-  
modum obnoxii evadunt. Hæc proclivitas non



tantum cœli temperiei, quam luxui et generi vitæ minus idoneo, cui Europæi in hisce terræ partibus nimis dediti sunt, attribuenda est. Quantum hæc causa valeat, indigenæ e religionis institutis, diætâ tenuissimâ fere contenti, et ex hoc morbo plerumque immunes satis superque docent. Si autem e solitâ vivendi normâ deflectant haud minus quam alii hepatitide obijciuntur. Dr GREGORY, ut hoc comprobaret, ad infelices bello captos, quos HYDER ALI, dirus tyrannus, per plures annos detinuit, et qui oryzâ solâ vitam vix sustinuerunt, ingeniose provocat; etsi enim plures, hujus alterius NERONIS sævitiâ, dysenterix, et aliis malis occubuerunt, nullus autem horum hepatitide unquam vexatus fuit; hoc ipsi satis bene perspexerunt, cum enim libertatem adepti sunt, quis amicorum longe distantium hoc morbo mortui essent, pignoribus datis contendere incipiebant; et cum ad *Madras* rediissent, plures eo periisse comperti sunt.

Inter causas quoque quæ homines huic morbo proclives reddunt, omnes quæ aliis inflammationibus opportunitatem dant, recensendæ



sunt. Habitus corporis robustus, temperamentum sanguineum, sexus, ætas, et alia hujusmodi huc spectant, hepatitidem quoque antea passi reditui ejus procliviores evadunt. Juvenes igitur, sanguine quippe pleni, præ infantibus et ætate provectoribus, hepatitidi multo magis patient. Mulierum hoc morbo ægrotantium raro admodum sunt exempla. Dr CLARKE medicinam in India Orientali per septenne late exercenti, tres hujusmodi casus solummodo sese obtulerunt\*. Hoc e molliore harum corporis compage, et vitæ genere magis temperato, subitis tempestatum mutationibus minus obnoxio deduci queat.

Qui nuper ad regiones calidas migrârunt, quam qui diu his assueti fuere, hoc malo sæpius plectuntur. Tumores quoque hepatis scirrhusi ad causas prædisponentes pertinent, hi enim sanguinis cursum per hepar impediunt, et sensum ejus acutiorem reddunt, quo sanguis ad id uberius fertur, et ad inflammationem suscipiendum pronius evadit.

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\* Med. Comment. 2d Decade, Vol. iv. p. 351.



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**CAUSÆ EXCITANTES.**

Si corpori jam proclivi facto causæ excitantes admoveantur, hepatitis eo certius concitatur. Hujusmodi causæ vel generalem sanguinis circuitum et cursum ejus per hepar perturbant, sanguinisve impetum hoc organum versus adaugent. Hinc subitæ tempestatum vices, certa anni tempora, in plagis calidioribus, ubi ventus illi graves et pluviosi *Monsoons* dicti accedunt; frigus vel extrinsecus regioni hepatis admotum, vel corpore calefacto intus assumptum hunc morbum inducunt. Animi quoque affectus, ira præsertim et mœstitia, illa sanguinis impetum versus hepar augendo, hæc ductuum hujus visceris spasmum concitando, huic malo originem duxisse feruntur. Causis quoque excitantibus insolatio vel *coup de soleil* \*, vis externa ca-

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\* CHESTON'S Pathological Inquiries, p. 32.; etiam BIANCHI Histor. Hepat. c. v. 147.

piti vel hepatis regioni illata\*, vehemens corporis exercitium, præsertim itinera longa et continua, nova victus ratio, vomitus vehementior, ebrietas, et præprimis prava liquores spirituosos bibendi consuetudo, et in India Orientali liquor *Ar-rack* dictus, rores quoque nocturni † in regionibus calidis, accenseri merentur. Inter morbos qui hepatitidi originem præbent, febres intermittentes, febris ‡ quæ apud *Carnatic* vel montanas Indiæ partes grassatur, pestis ||, typhus icterodes §, viscerum proximorum inflammatio, pneumonia scilicet, gastritis, dysenteria, hepatitis chronica, concreta biliaria, et cholera, enumerantur. Inter causas quoque hydrargyri abusus et aqua impura a GIRDLESTONE ¶ recensetur. De hac causa HIPPOCRATES \* et CLEGHORN † mentionem fecerunt; vermes ‡ demum, et vi-

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\* Appendix.

† GIRDLESTONE's Essay on Hepatitis, p. 22.

‡ BONTII Method. Medend. cap. iv. p. 36.

|| WADE on the Diseases of India, p. 129.

§ MACGREGOR's Medical Sketches, p. 127.

¶ Essay on Hepatitis. \* Oper. Omn. 557.

‡ On the Diseases of Minorca, p. 76.

‡ BIANCHUS' Hist. Hepat. tom. i. p. 193.



peræ \* morsus, morbum induxisse dicuntur. CHISHOLM† hepatidem contagiosum esse opinatur; huic autem sententiæ experientia omnino adversatur. BOERHAAVIUS ‡ et alii alias hujus morbi causas, ut sanguinis lentorem, bilem pinguem, acrem et exustam, in ardentibus febribus inediam, et potus defectum, falso statuerunt.

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### DIAGNOSIS.

MORBI quibus maxima cum hepatitide similitudo intercedit, sunt pneumonia, gastritis, splenitis, enteritis, colica, et inflammatio ligamenti lati haud infrequens malum. Cum inflammatio faciem hepatis convexam corripit, dolore sub costis falsis pressurâ adaucto, ad claviculam et summum humeri sentito, a pneumonia secerni-

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\* AVICENNA.

† Med. Comment. 2d Decade, vol. i. 355.

‡ Aphor. 197.

tur. Tussis quoque sicca non nisi quadraginta octo horarum intervallo post doloris accessum in hepatitide concitatur; in hoc etiam morbo expiratio dolorem haud intendit; decubitus in latus affectum facilius est.

Cum inflammatio faciem hepatis concavam adorta est, a gastritide dignosci queat, quia in hac, dolor ad claviculam et summum humeri deest, corporis vires multo magis collabuntur, et vomitus gravius urget. Observandum autem est, hos morbos nequaquam tam facile semper a se mutuo secerni posse, et maximâ medici attentione ad progressum morbi sæpe opus esse, quo diagnosis certius fierit; dolor enim claviculæ et summi humeri sæpe deficit; et alia horum morborum signa admodum ambigua sunt. Hepatitis et enteritis, dolore in hoc circa umbilicum torquente, satis facile internoscuntur. In colica, febre absente, discrimen in promptu est.

In splenitide, dolor obtusus et ponderis sensus in hypochondrio dextro sentitur; febris lenis est, et tussis, vomitus, et claviculæ dolor absunt.



In inflammatione ligamenti lati, ægro in ventrem decumbente, dolor decedit, quo diagnosis satis elucet. Peritonitis quoque ab hepatitide sede doloris plane dignoscitur.

### PROGNOSIS.

HEPAR e mole et structurâ ejus inflammationi minus opportunum est ; si autem hæc semel concitata fuerit, ne in suppurationem abeat, timendum est ; huic enim, si pulmones excipias, nullum corporis viscus magis obnoxium existit. His rite perpensis, mala e suppuratione oriturâ satis manifesta erunt. Si morbus ad resolutionem spectat, hic eventus enixe exoptandus ante nonum vel decimum diem plerumque evenit. Cum igitur sudores copiosi intra hoc tempus erumpentes aliæve evacuationes criticæ supra memoratæ, ægro levamen afferant, vel signa idoneâ medendi ratione sublevata fuere, exitum morbi felicem jure speramus. Si morbus prius

ad suppurationem vergat, quam hydrargyrus proprios effectus in corpus ediderit, periculo minime vacat. Si suppuratio extrorsum spectet, vel abscessu rupto, pus benignum effundatur, salutis spes nequaquam abjicienda est. Cum autem abscessus superficiem hepatis inferiorem tenet, et pus inter abdominis viscera eruperit, (quod interdum evenit), parum opis in medicina, nec ulla fere sanationis spes superest. Et sane omnis hepatis suppuratio periculosa, in superficie autem ejus inferiore oborta, lethalis sæpissime habenda est.

### MEDENDI RATIO.

IN hoc morbo, duo medendi consilia ultro sese nobis offerunt.

Imo, Actionem vasorum vehementem refrænare, sanguinisque impetum versus hepar inhibere.



2do, Evacuationes, quæ morbo crisin afferunt, promovere, et signis molestioribus subvenire.

Quo primum consilium absolvatur, æger omne præter tenuissimum cibi genus, et omnia quæ sanguinis circuitum incitent, sedulo evitare debet.

Primis morbi diebus ad sanguinis detractio-  
nem decurrere summi momenti est, quæ, prout  
signorum vehementia exposcat, iteranda est.  
Nec unquam sanguinem e parte laborante mis-  
sum, in locum ejus suffecisse liceat, nisi morbus  
febrem intermittentem remittentemve subsecu-  
tus est, aut quædam alia generalem hujus mis-  
sionem prohibeant. De modo quo sanguis in  
hoc, æque ac in aliis viscerum inflammationibus,  
detrahendus est, Doctor PEMBERTON hæc op-  
time admonuit: “ I find, from numerous ex-  
“ periments, that when the orifice is such as to  
“ permit eight ounces of blood to flow in three  
“ minutes, that the patient will then derive  
“ every benefit; but if it flows in longer time,

“ he will then derive less, or no benefit at  
 “ all.”

*Epispastica* in hoc, æque ac inflammationibus, magnopere prosunt. Horum usus gravi Doctoris GREGORY et PRINGLE auctoritate quoque comprobatur ; hic enim exulceratoria, libera venæsectione præmissâ, plurimi æstimat.

*Cathartica* plane necessaria sunt, et, ut MONRO senior clar. monet, effectus felicissimos sæpe præstant. Hujus generis medicamentorum sales mediæ cæteris plane anteponendi sunt. Si autem signa his resistunt, quæ alvum fortius purgant, ut sub-mur. hydrarg. cum jalapa, vel oleum ricini adhibenda sunt.

*Fomenta* quoque externa et interna beneficio haud carent.

*Emetica*, præsertim morbo ineunte, a nonnullis usui commendata fuere. Hæc autem, e vehementi eorum actione, potius esse nocitura crederem.



Cum inflammationis vis remediis supra dictis fracta fuerit, ad hydrargyrum, nulla interposita mora, decurrendum est. Hoc enim validissimo auxilio, sana hepatis munera brevi plerumque restituuntur, et, ne morbus in suppurationem statumve chronicum ruat, optime cavetur. Medicis chemicis non solum hoc remedium eximium, sed usum ejus quoque in vitiis hepatis debemus. RIVERIUS \* hoc satis testatur; dixit enim, “Præter omnia remedia commendant mercurium.” Quod ad hydrargyri præparatum hepatitide laborantibus maxime accommodatum, nullum unguento communi coeruleo præstantius est; effectus enim multo certiores edit, quam si pilularum forma administratum fuerit. Ex drachma ad duas hujus unguenti internis femoribus bis in die affricandum est; et cum morbus vehementius sævit, pilulæ cum eo haud sine fructu conjungi queant, quibus dimidium grani vel opii granum adjectum, ne per alvum exeant, cavet.

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\* Opera Omnia, Prax. Med. lib. xi. 327.

Quod ad modum quo corpus ex usu hujus medicamenti affici debet, ea attentione dignissima, quæ de hoc gravi proposito Dom. MACGREGOR admonuit, hic loci proferre haud alienum erit: “ This disease never yields till the  
“ saliva flows freely. The explanation of this I  
“ do not attempt to give; but the fact is as I  
“ state it, and it is well known to every man  
“ who has practised extensively in India. When-  
“ ever the gums are hard, and insensible to the  
“ effects of mercury; when, instead of saliva-  
“ tion, they are red, painful, spongy, or blue,  
“ the prognosis is very unfavourable: in nine-  
“ ty-nine of such cases out of the hundred, we  
“ lose our patients.” Idem auctor ingeniosus et indefessus, gingivas in quibusdam exemplis haud affici potuisse, nisi sanguis prius missus fuerat, monet. Etsi signa omnino decesserunt, usus hujus remedii haud illico deponendus est, sed corpus per aliquod tempus sub imperio ejus retinendum. Morbus enim acutus ad statum chronicum sæpe insidiose transit.



In usu igitur hydrargyri per tres septimanas saltem persistere debemus. Cum autem malum magis pertinax est, et scirrhi incipientis indicia appareant, per quinque vel sex septimanas ad minimum eo utendum est.

Quod ad acidum nitricum attinet, quo summo cum beneficio in chronica hepatitis specie Doctor SCOTT, Bombaiensis, et alii medici complures usi sunt: nil fere de virtutibus ejus in specie acuta constat; id autem ex hoc morbo convalescentibus haud parum prodesse mihi verisimile videtur.

Ut secundo medendi consilio satisfaciamus, evacuationes *criticæ* sedulo idoneis remediis promovendæ sunt.

Ad dolorem lateris levandum, emplastrum e cantharidibus parti dolenti admotum omnibus aliis præstat.

Cum vomitus e nimia bilis copia originem duxisse videatur, opium, unà cum medicamento quod alvum cieat, adhibendum est.

Singultui, mortis imminentis fere prænuncio, si ægrum multum inquietat, inflammatione prius subactâ, moscho et opio succurrere possumus. Cum ventriculus opium respuit, cum haustu salino effervescente conjungi queat, quo facilius retinetur ; quantum hoc valeat, in vehementi cholerae morbi exemplo, ipse experientiâ edoctus comprobavi.

Si autem hisce remediis parum profecimus, et morbus in suppurationem nihilominus abeat, tunc diæta magis plena et roborans ægro concedenda est ; et cinchona et vino libere utendum, quibus nil magis ad pus bonum formandum, et ad abscessum exterius avocandum conducatur. Si abscessus extrorsum vergat, in partem ejus inferiorem incidendum est, et, ne vulnus concrecat, antequam pus omnino effluxerit, omni cura niti debemus. Medici antiquiores ad hoc remedium confugere solebant \* ; et usus ejus cum eventu maxime felici apud hodiernos invaluit. Doctor CLARKE affirmat, duo e tribus ægris hoc

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\* HIPPOCRATES.



modo ad sanitatem perductos esse, quos morbus aliter enecaverit. Integumenta scalpello dividenda sunt, et cum ad abscessum perventum est, eum vel lanceola, vel instrumento *trocar* dicto, aperire liceat; hoc consilio posterius instrumentum anteponi meretur, ejus ope enim pus paulatim educere liceat, quod permultum interest, præsertim si abscessus amplior fuerit. Alii ad abscessum aperiendum *caustico* usi sunt; e supra dictis autem hoc parum idoneum esse patebit.

Si tamen abscessus intus verteretur, res non tam feliciter cedit, nonnunquam autem natura materiæ expulsionem diarrhœâ vel aliis evacuationibus molitur: ad hunc eventum potus mucilaginosi uberius propinati conferre possunt. Cum morbus depulsus fuerit, ægri vires amaris et vino firmandæ sunt; huic quoque proposito ad cœlum minus calidum migratio, navigatio, et aër maritimus inserviunt.

Hocce opusculum, qua potui curâ elaboratum jam finiturus, omnes, qui hepatitidem vi-

tare student, monendos velim, ut acidis modice uterentur; et cibi potusque intemperantiam, caris æstus, et rores regionum calidarum sedulo caveant.

## DIXI.





## APPENDIX.

*Doctor MONRO, tertius, clarus, et mihi amicis-  
simus, sequentem Hepatitidis historiam bilis  
sputo finitam, quâ hocce opusculum exorna-  
rem, mihi tradidit.*

MR M—— a stout young man, twenty-two years of age, having been exposed to cold during the night, after severe military duty \*, was seized with the usual symptoms of hepatitis, which, though apparently slight, were soon followed by those of suppuration. He had a constant tickling cough, accompanied with a difficulty in breathing, and sense of oppression at his breast, though without any pain, except what the cough sometimes excited.

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\* It may not be improper to add, that this gentleman carried the colours of the regiment, and imputed his complaint to his having supported the end of the shaft of the colours upon his right side.



In a few days, he began to expectorate, and, in considerable quantity, a viscid, purulent mucus, which, the day following, was found to be mixed with a fluid, like the washings of raw flesh, and also with a fluid resembling bile in colour, and of a bitter taste.

Mixed with the fluid discharged by expectoration, there were also a number of small hard masses, some of which were like very small portions of the liver, others like pieces of cartilage.

The symptoms were at first much relieved by the expectoration, but recurred in about an hour, and again gave way, upon a copious expectoration coming on.

The patient, before the expectoration, complained of a bitter taste in his mouth: the sense of oppression was increased: his respiration became quicker, and was accompanied with a wheezing noise, which, to make use of the patient's own simile, was like air passing quickly through a fluid.

The quantity expectorated was different at different times: it was increased from eating, and remarkably so an hour or two after dinner, when the cough was at times so severe as to induce vomiting.



The expectoration was also increased by eating soup, or any kind of vegetable; also from drinking wine or spirits.

All his complaints were aggravated by costiveness.

His sleep was greatly disturbed and interrupted, from the necessity he was under of getting up every two hours during the night to expectorate; the quantity discharged by coughing during the night being commonly equal to what he spat up in the course of two mornings. The whole quantity in twenty-four hours was from ten to fifteen ounces.

He suffered great oppression when lying on his back; his easiest posture was when his head and shoulders were considerably raised, and his body inclined to the right side.

There was not any preceptible enlargement of the liver.

Though his indisposition confined him to his room, his appetite was tolerably good, and, except occasional flatulency and costiveness, he had no symptom of dyspepsia.

His stools were natural as to quantity, but of a clay colour. His urine, during the paroxysms of fever, oppression, &c. was in small quantity, of a high colour, and deposited a pink sediment.



His eyes and skin never had the slightest tinge of yellow. His pulse was commonly from 80 to 100 in the minute, and, from all accounts, had been more frequent at the first, than during any of the subsequent attacks of the disease.

The preceding is a description of the symptoms of the complaint at the beginning, and in the months of September and October 1799; during which period, he took calomel and other purgative medicines, and he thinks with advantage, although he does not impute his recovery to the operation of any medicine, the disease having ceased rather suddenly, and without any apparent cause. For nearly two years he enjoyed tolerable health, with the exception of a slight relapse, which continued only one or two days.

In the month of March 1801, after eating apples, and drinking a considerable quantity of punch, his complaint returned, and continued for about two months, and again yielded to the use of purgatives. The spring following it again returned, and without any obvious cause, continuing for six weeks.

About the end of October 1804, he had a fourth attack, which he imputed to catching cold; and this last continued till the month of April, when he left Edinburgh.



Epistola subjecta a Domino BURT, Chirurgo,  
ad Doctorem MONRO nuper missa, de valetu-  
dine qua nunc fruitur æger certissimus est.

DEAR SIR,

I received a letter a few weeks since from Dr  
MACDONALD, the father of our old patient.  
He says his son keeps much better, and is ta-  
king care of his farm in the Island of Skye : he  
has had some slight returns of his liver com-  
plaint after being exposed to cold, or severe fa-  
tigue, but never expectorated so much bile as  
when you and your father visited him. I re-  
main your much obliged humble servant,

ROBERT BURT.

EDINBURGH, }  
5th June 1807. }

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*Observations on the preceding Case.*

THE hepatitis, or the inflammation of the li-  
ver, a disease so frequent in tropical climates,  
and the great endemic of the peninsula of In-  
dia, is one that rarely occurs in this country, or  
indeed in Europe.

When we meet with it, it is only a partial in-



flammation, as in the preceding case, terminating in a partial suppuration of this bowel. The matter formed, after some time, usually makes its way through the ductus communis choledochus into the intestines, and is evacuated by purging; sometimes the abscess bursts into the stomach, or the matter is discharged by vomiting, or the abscess bursts into the cavity of the abdomen.

Persons who have suffered one attack of this kind are generally subject to returns, which sometimes terminate fatally in a hepatic hectic.

The most remarkable circumstance in the preceding case, and as such chiefly claiming our notice, is the matter of the abscess having made its way through the diaphragm into the lungs, and having been evacuated by expectoration, or through the trachea.

Of this, I believe, there are few examples, and indeed it can only happen, when the abscess is formed in that portion of the liver which is contiguous to the diaphragm, or when the adhesion had previously taken place, in consequence of inflammation or tubercle.

The preceding case affords an example of the following very remarkable, and, I believe, very unusual facts.

1st, That the matter of an abscess in the li-



ver, sometimes makes its way through the diaphragm into the air-vessels of the lungs, and does not immediately prove fatal.

2dly, It is obvious from the quantity of the bile expectorated, and clay colour of the stools, that all the branches of the hepatic duct communicated directly or indirectly with the abscess, while, at the same time, there existed some cause, which had, on many occasions, though not constantly, prevented the bile from passing downwards into the duodenum.

3dly, The bile being discharged by expectoration, explains the cause why the patient had not jaundice.

The purulent matter found within abscesses of the liver is commonly extremely viscid, resembling purulent mucus, which explains the appearance of the matter expectorated: besides, as this was discharged through the trachea, it was necessarily mixed with more or less mucus in its passage. In the treatment of this disorder, little more can be done, than to endeavour to palliate the most urgent symptoms.

Small doses of calomel were prescribed, partly with a view to its stimulant effects upon the intestines, partly with a view to its deobstruent property; as, perhaps, by such a medicine, any tumour or induration in the substance of the li-



ver, or neighbouring parts, which prevented the free flow of bile through the smaller biliary ducts, or ductus communis choledochus, might have been removed.

It seems to me not improbable, that the spreading of the ulceration through the substance of the liver might have been the cause of the patient's relapse, and especially as the disease returned, upon his being exposed to those causes which originally induced the disorder, or from taking such articles of food or drink as are well known to aggravate or renew it, especially in those, who, at any period of their lives, have had hepatitis.

Although, from the appearance of the fluid expectorated, there could be little doubt of its containing bile, I was desirous of having the fact ascertained by chemical analysis; and, with that view, sent a quantity of it, without mentioning its origin, to Dr DUNCAN *junior*, from whom I received the following account of some of the experiments to which he subjected it.

“ The fluid, which you sent me for analysis, was not homogeneous, but consisted of small white particles, fibres, and a few larger masses like cartilage, which had been long macerated, enveloped in a glairy fluid of a yellow colour,



as if tinged with bile ; its smell was unpleasant, and somewhat sweet, like that of honey. It was the most glairy fluid I ever saw, not excepting the white of an egg. On attempting to lift a portion of it in a spoon, the whole was drawn back into the bason, by its cohesion with what remained ; and it was with the greatest difficulty that a little of it could be poured out of a proper vessel. I endeavoured to separate the solid particles from the fluid by means of filtration ; but even after it was well beaten with water, to destroy its tenacity, it did not pass through a paper filtre.”

“ When perfectly recent, it did not change the colour either of turmeric or litmus, but, in a very few hours, it reddened the latter, and in this state were my experiments performed upon it. When kept for a length of time, it gradually separated into a transparent brown fluid, and yellow opaque sediment, and became very slowly, but, at last highly, putrid ; and, in consequence of these changes, lost its remarkable glairiness.

“ Its resemblance to white of egg induced me to suppose, that it consisted chiefly of albumen ; but I was mistaken, for it did not coagulate upon being heated to ebullition. It however underwent some change, for its re-



markable cohesiveness was completely destroyed. Neither did it consist chiefly of gelatine; for, on being considerably evaporated, and allowed to cool, it did not gelatinize. During the evaporation, a brown pellicle formed on its surface, resembling those which form on solutions of extractive, when exposed to the action of heat and air. When evaporated to dryness, it formed a yellow semi-transparent mass, somewhat deliquescent.

“ It was difficultly diffusible through cold water, by agitation, but more readily through boiling water. It did not, however, form a perfect solution, but remained milky with a little flocculent sediment.”

Sulphuric, nitrous, and muriatic acids first coagulated it, the coagulation passing successively from a bright yellow, through a series of colours, green, blue, and purple, and then dissolved it into a yellow or green turbid fluid. During the action of sulphuric acid, a pungent smell, resembling acetic acid, was distinctly perceived. These acid solutions were decomposed by water and alkaline solutions, and the precipitate, in both cases, was re-dissolved by adding alkali in excess.

“ Diluted nitrous acid, acetic, oxalic and oxymuriatic acids coagulated it, without re-dis-



solving the coagulum, which was, however, soluble by excess of alkalis.

“ Solutions of alkalis, and of alkaline carbonates, readily dissolved it into a slightly turbid yellow fluid, which was decomposed by acids.

With solutions of acetite of lead, nitrate of lead, muriate of tin, nitrate of mercury, muriate of mercury, sulphate of zinc, sulphate of copper, and nitrate of silver, it formed coagulum, more or less consistent, and of various shades of yellow or green.

“ With infusion of galls it formed a white coagulum.

“ When diffused through a large proportion of water, the filtered solution was precipitated by infusion of galls, and all the acids; had its colour heightened, and transparency increased by the alkalis, and alkaline carbonates; was not precipitated by muriate of mercury, or sulphate of zinc; was slightly precipitated by alcohol, acetite of lead, nitrate of lead, sulphate of copper, and muriate of tin, and very copiously by nitrate of mercury.

“ It was converted into a white ropy coagulum by alcohol, which acquired from it a yellow colour.



“ The tincture lost its transparency when mixed with water; had its colour heightened by potash and ammonia; was precipitated by barytic water, and very slightly by tincture of galls. With sulphuric and muriatic acids it formed a turbid green fluid; with nitrous acid, a reddish orange fluid; and with oxalic and oxymuriatic acids, a turbid whitish-grey fluid; with muriate of mercury, acetite of lead, muriate of tin, and sulphate of zinc, it formed a white, and with nitrate of lead and sulphate of copper a green or blue precipitate. With nitrate of mercury it formed a very copious white curdy precipitate.

“ Water, in which the coagulum of the tincture was agitated, shewed slight indications of animal matter, by forming precipitates with tannin, acids, and metallic solutions.

“ From these experiments, I think we may conclude, that the yellow colour of the fluid was owing to the presence of the resin of bile, as I know of no other substance which undergoes similar changes of colour by the actions of acids and it. But with regard to the nature of the principal mass of the fluid, I am not so certain; and unfortunately, I had not an opportunity to repeat my experiments after. I had read Dr Bostock's paper in the Medical and Surgical



Journal \*. That it did not principally consist of albumen, was evident from its not coagulating by heat, and from no precipitate being formed in it, when dissolved in water and filtered, by muriate of mercury. That it did not principally consist of gelatine, was also evident, from its not being precipitated by the alkaline carbonates, from its being powerfully coagulated by most metallic solutions, and from its not gelatinizing on evaporation and cooling. That it did not consist principally of pus, was evident from its physical properties, its semi-transparency and remarkable cohesiveness. It differed from mucus chiefly in being precipitated by infusion of galls ; but, as this may have been owing to the admixture of gelatine, I am inclined to think, that it consisted principally of mucus, which is sometimes secreted in very large quantities, and very ropy, as in cysterrhœa and some varieties of diarrhœa.”

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\* Vol. i. p. 257.



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Vol. I. p. 257.