Celebrating 35 Years of the AJNR: January 1983 edition

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January 1983 edition

Computed Tomography of the Brain Stem with Intrathecal Metrizamide. Part I: The Normal Brain Stem

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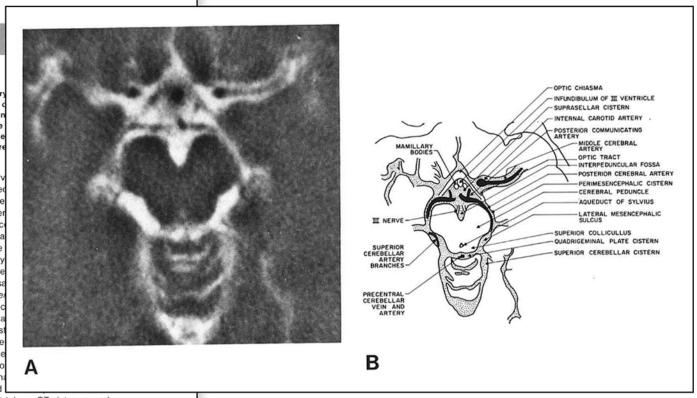
**Detailed anatomy of the brain stem and cervicomedullary
demonstrated with metrizamide computed tomographic c
surface anatomy is unusually well outlined. Nine distinct an
of section are described: four levels in the medulla, three
mesencephalon. Surface features of the brain stem, fine
fourth ventricle, cranial nerves, and vascular structures are**

Reliably accurate imaging of the brain stem and cerv
now become available using high-resolution computed
ning following intrathecal administration of metrizamide
of surface features of the brain stem such as the ver
sulcus, pyramids, and olivary protuberance has beco
details have not been routinely demonstrable in the pa
Many authors [1, 2] have already emphasized the
cisternography and its superiority to both angiography
raphy. These latter procedures rely on subtle displace
tion of the air-filled fourth ventricle and posterior fossa
air, metrizamide spreads much more readily in the e
without the problem of meniscus formation or "air loc
ration of the various collections of contrast agent and a
of features encountered in nontomographic contrast st
Improved visualization of the details of the brain ste
allowed the detection of subtle morphologic change
subarachnoid space not previously appreciated. Disto
tortuous vessels, focal atrophic changes, and early cha
good examples of the value of this method. A detailed
anatomy of the brain stem, cerebellum, and fourth ventricle on CT cisternography
is essential in order to fully utilize the diagnostic capability of metrizamide CT.



Materials and Methods

From those patients who
ical Institute in an 18 month
of the brain stem in 30 who
Metrizamide was introduc
more often through a C1–C2
medium. The average amou
children. The use of metriz
however, in our experience,
risks of the contrast agent in
in the hour after injection.
scanner using primary reco
diameter on a 512 × 512 m

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Dyke Award Postmortem CT and Autopsy in Perinatal Intracranial Hemorrhage

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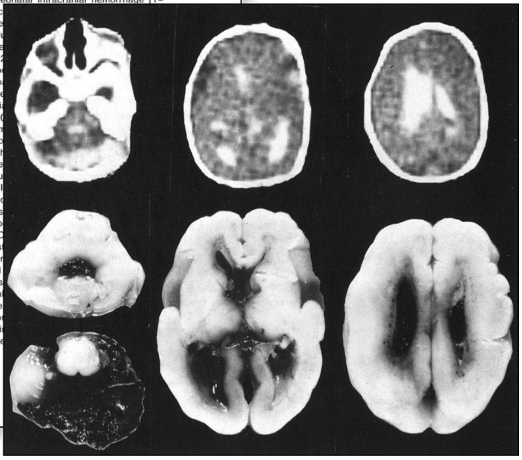
M. Brand[4]

To improve interpretation of intracranial computed tomographic findings in vivo, postmortem computed tomography was correlated directly with autopsy findings in 105 specimens of human stillborn and live-birth infants, ranging in age from gestational week 13 to postnatal month 18. This study identifies the typical computed tomographic appearance of intradural and other hemorrhages, attempts to correlate the type of hemorrhage with brain maturity, and documents that postmortem computed tomography is useful to the neuropathologist as a supplementary method complementing the traditional postmortem examination.

In recent years, computed tomography (CT) and sonography of newborns have
greatly improved our understanding of neonatal intracranial hemorrhage [1–
10]. New insights into in vivo morphology c
[11–15] have made it possible to predict the
control of a morphologic diagnostic procedu
pathologic confirmation of its accuracy, the
tion of CT and postmortem pathology [16–2
Postmortem CT provides a unique metho
detecting and characterizing intracranial pa
(1) CT findings and pathology can be dire
progression of pathology in the highly varia
CT study and the postmortem examination. (
about the state of the brain at postmortem
requires delay for proper brain fixation prio
CT can be used to determine intracranial ch
to information about these changes in the
handicapped by advanced maceration, su
phology can still be expected from CT. (5) I
can influence the way in which the patholo
paring axial CT cuts with horizontal brain s
benefits in discovering small details like sub
off areas with slight density deviations on C
intracranial hemorrhage or ventricular dis
cranial vault is still undamaged. Moreover
cerebrospinal fluid (CSF) spaces is altered
On the other hand, appreciable differences
vivo and postmortem CT studies occurs on
Since 1980, CT has been performed afte
before autopsy in the Department of Neuro
We have tried to delineate some aspects of i
postmortem CT and autopsy. Preliminary re



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