

The Evolution Of neurosurgery and Modern – day Practice

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ABSTRACT

Background:

The early years of written history- Mesopotamia, Egypt, China and India. We consider surgery as start root of neurosurgery so we include Ancient Greece and Rome from prehistoric times.

Material and methods:

We search for history of neurosurgery and start with literature on the history and evolution of neurosurgery we selected all kind of articles and published book .We consider event and person that have been making neurosurgery as a specialty.

Results:

We found neurosurgery as a part of general surgery and medician launching from the ancient times, neurosurgery is believed to be the oldest medical "specialty" of all time. Technological development of other branches of medician and surgery make great impact on neurosurgery a futuristic specialty.

Conclusion:

Evolution of neurosurgery is time dependent and related with other branches of medician and surgery in initial stages, it is not a separate branch of surgery but in posthistoric era it was. The evolution of neurosurgery is parallel to surgery evolution. In Morden day it is parallel to evolution technology

Key word:

Prehistoric times, The Oldest Medical specialty, futuristic specialty.

Introduction:

History of neurosurgery is start with history of surgery. Neurosurgery is a rapidly evolving in recent past and has taken a lead in adopting new technologies .The corpus hippocraticum, , a collection more than 60 medical texts originating from between 500 BCE and200 CE , continues first description of trephination ¹⁻².

We consider the event that make neurosurgery as specialty and futuristic specialty. Indian surgeon sushruta gave , the first detailed description of surgical instrument and was also the first known physician to achieve a successful entrance of the skull³ .The Chinese surgeon, Hua Tuo is great contributor to this field⁴ .The Arab also played important role to development of the medicine .Avicenna and Rhaze, Abbas and Albucasis were those who have actually influence neurosurgical progress⁵⁻⁶ .

Discussion:

A history of Neurosurgery is comprehensive and it is related with entire medicine and Surgery branches. The community of neurosurgeon is relatively small. One of the reason its relation with advance technology which is not available at every center

Archaeological survey shows that variois cultures practiced opening of skull suggests the existence of different techniques for trephination .¹⁻⁷

In 18 centaury, infection was common cause of death related to trephination⁸ . In initial stage of neurosurgery was for seizures mental illness, bad spirits, headaches and traumatic brain injuries.

Abroise pare-known as father of Morden surgery had contributed to understand the trauma and roll of skull to protect parenchyma and many observation starts systematic neurosurgery⁵.

Modern neurosurgery began with understanding of anatomy of brain and spine, when Cushing presented it⁹. It is depend on instrument and equipment based on technology.

Table-1 shows evolution before modern technology. Instrumnet are following

1. Simple microscope
2. Compound microscope
3. Endoscope
4. CT (computed tomography)
5. MRI (magnetic resonance imaging)
6. Ultrasound
7. 3 D ultrasound technique
8. Endovascular technique
9. Laser
10. LED (Light emitting Diodes)
11. Radiosurgery

Morden days practice

The youngest surgical branch is neurosurgery In early day neurosurgeon are well trained general surgeon who has specialized in neurophysiology .In modern days there are types of neurosurgeon are (a) Neuro-oncology and interventional neuroradiology (b) paediatric neurosurgery(c) cerebrovascular and skull base surgery (d) spinal surgery (e) Neuro traumatology(f) Functional Neurosurgery

There are many different types of neurosurgery options are available as knowledge about CNS and PNS increase and technological advancement occurs more and more advancement neurosurgical branches developed.

Majority at the neurological branches are strongly with latest technology. Even most complicated cases could be treated as our patients

Important event in neurosurgery

1. Removal of first brain tumour using electro cautery in 1926
2. Neurosurgery wire saw (drahtsage)
3. The first endoscopic used for ventriculostomy by dandy in 1922
4. Use of endoscope for multipurpose
5. Sir vector horsely had intraoperative critical stimulation
6. Godfrey Hounsfield and Allan cormack development CT scan and had won Nobel prize in 1972
- 7 In India 2 drugs:'sammohini' and sanjiviniwere used to treat neurological problems before birth of christ
8. CT Scan, MRI and gamma kife are revolution in field of neurosurgery

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TABLE-1

| Sr.no | Time | Event Person |
|-------|------------|---|
| 1 | 800 BC | Suchruta" father of surgery" "Father of brain surgery". |
| 2 | 460-377 BC | Hippocrates Greece |
| 3 | 150-220 | Hua Tao(Yuanhau) Chines Physician who used primary anaesthesia |
| 4 | 936-1013 | Alzahrawi's- Father of Modern Surgery |
| 5 | 1853-1911 | John Hugh lings Jackson Founder of cerebral localisation and Neurology |
| 6 | 1846 | Anaesthesia |
| 7 | 1867 | Antisepsis |
| 8 | 1881 | International Medical Congress London theory |
| 9 | 1883 | Camillo Golgi: Nerve network doctrine Cajal, Neuron theory |
| 10 | 1888 | Victor history Cortical map |
| 11 | 1891 | Asepsis |
| 12 | 1901 | Open heim: Cranial Rorntogenology charless Sherrington (1857-1952) |
| 13 | 1906 | Father of Morden Neurophysiology the integrative Action of the nervous system |
| 14 | 1908 | Fedor Kravse Founder of German Neurological Surgery |
| 15 | 1910 | L' Espinasse-1 st Nsx endoscope |
| 16 | 1910 | Oscar Hirsch Trans septal approachi to pituitary |
| 17 | 1920 | Society of Neurological Surgeons |

| | | |
|----|------|---|
| 18 | 1922 | Walter Dandy Endoscopic Choroid plexectomy |
| 19 | 1923 | Mixer EVT using urethroscope |
| 20 | 1929 | Berger : Introduction EEG |
| 21 | 1932 | W.Eayle crutch field –sketel tranction for cervical spine fractures |
| 22 | 1947 | George More: Radionuclide imaging |
| 23 | 1952 | Irving cooper –chemo –palidectomy for parkinsonism |
| 24 | 1957 | Theodore kurze and William house : acousion |
| 25 | 1960 | Julius Jacobson : Frist Microvascular Neurosurgery |
| 26 | 1962 | Jules Hardy M/E Aneurysm 5x |

