Craniometric Lines Aiming Positioning in the Supracerebellar Infratentorial Approach

Juan Manuel Revuelta Barbero MD; Anwar Saab Mazzei; Sofia Santiño Gómez; Carlos Cotúa Quintero; Xavier Santander Espinoza; Raquel Gutiérrez González; Avelino Parajón Díaz

Puerta de Hierro University Hospital

Madrid - Spain

SaludMadrid
Hospital Universitario
Puerta de Hierro Majadahonda
Comunidad de Madrid

Introduction

Although pineal region tumors represent a small portion of the intracranial neoplasic lesions, they are frequently approached via supracerebellar infratentorial craniotomy.

Methods

Mid sagittal plane MR and CT images will be fused using a free software (Osirix viewer). 25 control adult specimens will be included. The following items will be analyzed:

1- Points: Corpus callosum splenium, external occipital protuberance (EOP), horizontal mandibular ramus (HMR)

2- Alpha angle: Splenium - EOP and EOP - HMR

3- Alpha angle Bisector (AB)

4- Beta angle: AB and Splenium - EOP

5- A distance: From Splenium to intersection with EOP-HMR line

6- B distance: Between intersection of A distance-AB and A distance-EOP-HMR

Results

Alpha and beta angles will be measured, as well as A-B distance, to know their standard deviation related to age and gender.

According to the results, the cervical flexion degree and the distance sternal manubruim - mentum, will be validated in order to determine their optimal values to achieve a direct access, good visibility and complications avoidance.

Conclusions

The supracerebellar infratentorial approach is widely used in the treatment of the pineal region tumors, and represents a safe approach. The positioning of the patient in the operating table is of paramount importance and objective values are proposed to achieve it optimally.
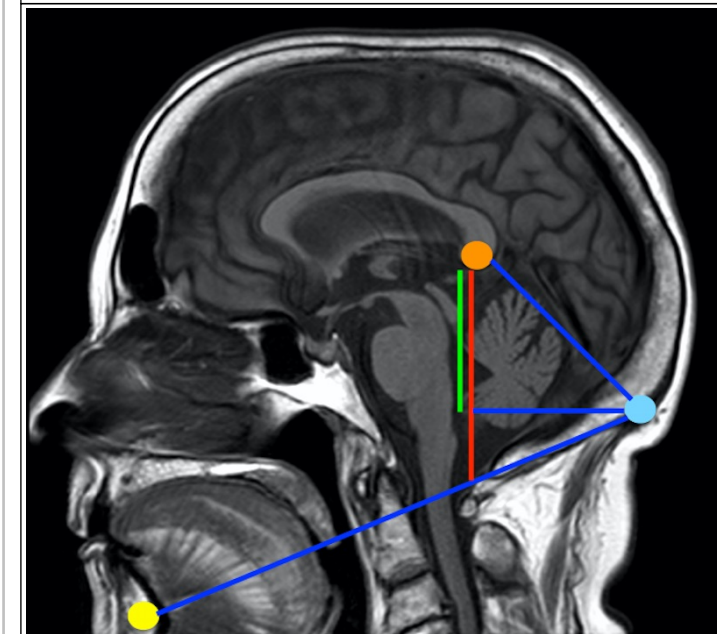
Learning Objectives

The aim of this study is to choose the optimal cervical flexion that can allow a direct and safe access for this approach.
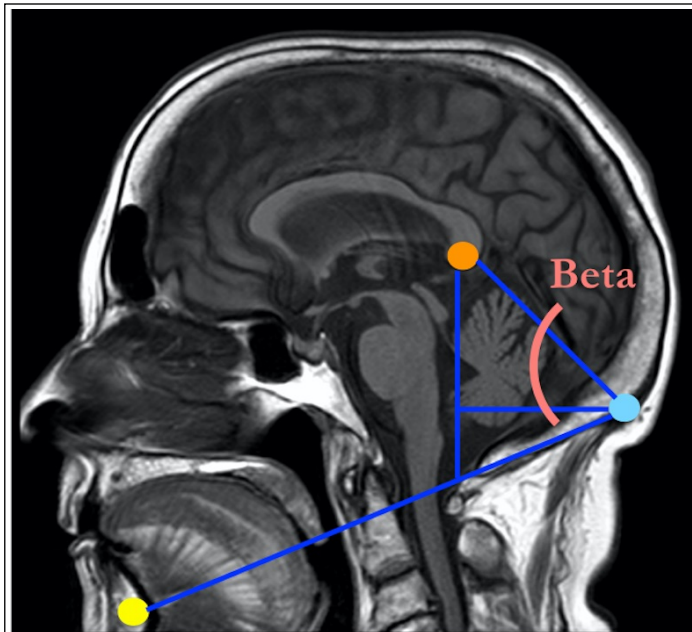
42,51º +/- 7,7
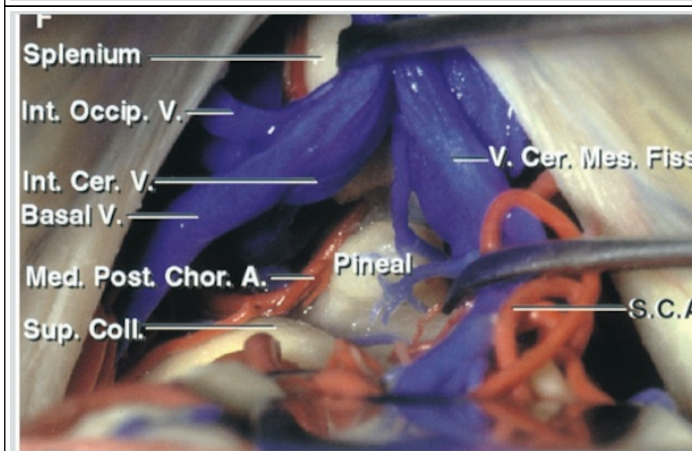
	Gender	Age	Alfa angle	Beta angle	Distance A (cm)	Distance B (cm)
1	2	42	65,22	46,68	7.02	4,89
2	1	70	68,21	47,58	7,02	5,26
3	2	71	67,59	44,48	7,47	5,30
4	1	77	77,97	53,08	7,50	5,39
5	2	74	67,60	54,65	6,54	5,58
6	2	79	69,51	45,05	7,09	4,95
7	2	30	65,58	40,37	7,53	4,75
8	1	67	60,61	43,51	6,94	5,19
9	2	72	58,23	40,22	6,40	4,65
10	2	36	63,58	51,65	6,57	5,52
11	1	75	65,09	46,17	7,91	6,02
12	1	49	66,17	48,08	6,94	5,37
13	2	67	62,19	38,48	7,01	4,45
14	2	42	66,54	33,32	6,99	3,57
15	2	54	64,53	38,57	7,05	4,36
16	1	21	63,55	35,33	7,44	4,39
17	2	26	59,06	29,67	6,43	3,27
18	2	45	62,65	43,17	6,68	4,92
19	2	86	67,85	51,38	7,06	5,69
20	2	29	56,50	30,35	7,17	3,90
21	2	34	67,01	38,94	7,80	4,75
22	1	45	64,24	47,14	6,64	4,82
23	2	30	52,80	24,53	6,27	2,89
24	1	67	64,31	47,74	7,31	5,69
25	2	63	63,20	50,25	6,90	5,25

Splenium
Int. Occip. V.
Int. Cer. V.
Basal V.
V. Cer. Mes. Fiss.
Med. Post. Chor. A. — Pineal
Sup. Coll.
S.C.A.

4,78 cm +/- 0,75