Table 1: Pathology distribution

Pathology type	**n**	**% of cohort (N=120)**	**Notes**
Meningioma	39	32.5%	8 sphenoid wing, 5 planum/tuberculum, 2 olfactory groove
Astrocytoma	30	25.0%	11 temporal, 8 parietal, 3 frontal, 6 occipital, 1 suprasellar, 1 chiasmatic
Metastasis	18	15.0%	Various locations
Pituitary adenoma	7	5.83%	Sellar/suprasellar region
Vascular lesion	9	7.5%	Aneurysm or AVM-related
Orbital lesion	8	6.66%	Intraorbital tumors
Chordoma	3	2.5%	Skull base
Neurinoma	2	1.6%	Optic nerve region
Rathke's cleft cyst/Craniopharyngioma	2	1.6%	Sellar/suprasellar
Lymphoma	2	1.6%	CNS involvement

120 patients were analyzed; 90.8% had analyzable intraoperative data; 9.2% excluded due to artifacts or documentation gaps.

Table 2: Intraoperative VEP signal quality and postoperative visual outcomes

Signal quality category	n	%	Typical intraoperative finding	Postoperative vision (improved / unchanged / worse)
Documentation inadequate	4	3.3%	Missing records	-
Artifact-dominant	7	5.8%	Non-interpretable signal	-
Stable VEPs	63	52.5%	Consistent amplitude and latency	20 / 41 / 2
VEP changes – badly derivable	5	4.2%	Low reproducibility	1 / 3 / 1
VEP changes – side difference	26	21.7%	Unilateral amplitude reduction	5 / 21 / 0
VEP changes – deterioration	15	12.5%	Bilateral or progressive loss	2 / 8 / 5

Abbreviations: VEP, visual evoked potential. Percentages relative to total cohort (N=120).

Table 3: Intraoperative VEP changes and corrective interventions

Subgroup	n	Common intraoperative cause	Contact with visual pathway	Intervention applied	Effect on VEP signal
Side difference	26	Manipulation near optic nerve/chiasm	20/26	Nimodipine (11/26)	Improved in 5/11 cases
Deterioration	15	CUSA, bipolar coagulation, hemodynamic or temperature changes	15/15	Nimodipine (10/15)	Improved in 6/10 cases

Deteriorations typically occurred during dural opening or early resection. In both subgroups, VEP improvement followed optimization of perfusion, irrigation, or local nimodipine use.

Table 4: Association between intraoperative VEP changes and postoperative visual outcomes

Intraoperative VEP pattern	Postoperative visual deterioration (n)	Postoperative unchanged or improved (n)
VEP deterioration	5	8
Stable / side-difference / badly derivable	7	92
Diagnostic performance		
Sensitivity	41.7%	
Specificity	92.0%	

PPV: 38.5%; NPV: 92.9%.

False positives = 8; False negatives = 7.

Diagnostic metrics computed per patient using cases with analyzable intraoperative monitoring and available early ophthalmologic outcomes.