surgically along with the parietal bone flap. The mass was reported to be a high grade lymphoma pathologically, favoring diffuse large B-cell lymphoma. A subsequent chemotherapy was started and she was diagnosed as a combination of the disease after 6 months. In this case we report a rare case of skull vault lymphoma, which was firstly suspected to be osteosarcoma, in the elderly patient. The patient was successfully treated without any neurological deficit.

**P17.04 RADIOMICS ANALYSIS OF PRIMARY CENTRAL NERVOUS SYSTEM LYMPHOMA (PCNSL) - A LOC NETWORK STUDY**
L. Rouyer-Pernet,1 A. Bruno,1,2 M. Danan,1,2 K. Labrèche,1,2 M. Mokhtari,1 L. Nguyen-Thiem,1,2 C. Houllier,1,2 C. Sousain,1,2 R. Robe,1,2 L. Alentorn,1,2 M.Cordoba Mosqueda,1 M. Loya Aguilar,1 L. Guerra Mora,1 M. Hernández Resendiz,2 L. Kuratsu,3 H. Vicuña Gonzalez,1 3ICM, Paris, France, 1LOC network, Paris, France, 1APHP, CHU Priné-Salpiné, Paris, France, 1Institut Curie, hôpital René-Huguenin, Saint-Cloud, France.

**BACKGROUND:** PCNSL are rare extramedullary, malignant non-Hodgkin lymphomas of diffuse large B-cell type confined to the CNS. In the last years, several recurrent molecular genetic alterations have been described in PCNSL but whether they are correlated with the tumor anatomical localization has never been investigated.

**OBJECTIVES:** We sought to analyze a genotype (molecular alterations) - phenotype (MRI data) in PCNSL.

**MATERIAL AND METHODS:** 50 PCNSL, MR images of treatment-naive patients were correlated with molecular alterations (i.e. MYD88 L265P, CD79B, TERT promoter mutations as well as a novel chimeric transcript that our laboratory has recently identified in PCNSL) obtained by Sanger sequencing. MRI data was analyzed as follows: (i) NIfTI data were registered to a 1.0mm isotropic, high-resolution T1-weighted brain atlas provided by the Montreal Neurological Institute (MNI152) using a mutual information algorithm with a 12-degree of freedom transformation with FSL-FLIRT; (ii) gadolinium-enhancing lesions were manually segmented and saved as voxels-of-interest (VOIs); (iii) A heat-map for the frequency of lesion occurrence was reconstructed and superimposed on the reference MNI152; (iv) Structure probability maps (brain regions) were defined according to Talairach MRI Atlas and (v) genotype - phenotype correlation was performed using voxel-based lesion-symptom mapping (VLSM) using FDR < 0.05 after 4000 permutations.

**RESULTS:** We found mutations of MYD88 in 18 patients, of CD79B, TERT promoter and the novel chimeric transcript were more frequently found in the 15 patients and of TERT promoter in 6 patients. The novel chimeric transcript was found in 11 patients. PCNSL harboring TERT promoter mutations and the chimeric transcript were more frequently found in the corpus callosum (FDR < 0.05). Conversely, we did not find a specific genotype-phenotype correlation with the rest of molecular alterations.

**CONCLUSION:** We provide a MRI probabilistic atlas linking genotype to phenotype in PCNSL. These results need further investigation.

**ACKNOWLEDGEMENTS:** Association pour la Recherche sur les Tumeurs Cérébrales (ARTC), Ligue contre le Cancer, Fondation pour la recherche médicale, Institut National du Cancer (INCa), Cancéropôle Ile-de-France, Département de la Recherche Clinique de l’APHP, CRC de l’APHP, réseau Lymphomes Oculo-Cérébraux (LOC).

**P17.05 EPIDEMIOLOGY AND CLINICAL IN PATIENTS WITH PRIMARY AND SECONDARY LYMPHOMAS WITH A NERVOUS SYSTEM CONDITION IN THE SOUTH CENTRAL HOSPITAL OF HIGH SPECIALTY FROM PEMEX IN MEXICO**
M. Cordoba Mosqueda,1 J. Guerra Mora1, R. Hernandez Resendiz1, L. Loya Aguilar1, R. Vickuna Gonzalez1, A. Ibarra de la Torre1, U. Garcia Gonzalez1
1Hospital Central Sur de Alta Especialidad PEMEX, Mexico, Mexico, 2Universidad La Salle, Mexico, Mexico.

**INTRODUCTION:** Primary lymphomas of the central nervous system are a type of Non Hodgkin Lymphoma with high morbidity and mortality. They are frequently associated with HIV infection, nevertheless the prevalence in non HIV patients has been tripled recently without any justified cause. In occasions it is difficult to identify the difference between primary and secondary origin in the central nervous system, this is crucial since the prognosis also changes.

**METHODOLOGY AND MATERIALS:** Observational study with a range of patients from March 1999- March 2016 with reported diagnosis of Non Hodgkin Lymphoma with Central Nervous System involvement inside the electronic files of the South Central Hospital of High Specialty PEMEX. A statistical analysis is made through the SPSS Statistics of the Disease in this Institution program.

**RESULTS:** There were a total of 20 patients found with the diagnosis of Non Hodgkin Lymphoma with Central Nervous System involvement with a media of 57.7 ± 16 years of age, 60% males. 45% were classified as primary; multiple variables were analyzed such as the histological subtype from which the most common was Giant B cell types in a 40%. Within the symptoms the most common was headheach and pyramidal syndrome with 25%. All the disease after 6 we found that with most prevalence ECOG of the population was of 1 reported case of 55 % of patients, nevertheless the survival rate after diagnosis had a global media of 40.3 ± 21 months, being of 36 months in secondary lymphoma and of 16 months in primary lymphoma, therefore no significant statistical differences in both groups were similar to the ones reported in the literature, nonetheless compared with the time of diagnosis based on the ECOG the overall rate of survival in both groups is low, which brings a great challenge for medical and surgical management. It is important to denote that the clinical scenario of this pathology is quite unspecific, giving a large range of differential diagnosis, therefore making it harder to diagnose and treat.

**P18 NEW DEVELOPMENTS IN SURGERY**

**P18.01 INDOCYANINE GREEN FLUORESCENCE ENDOSCOPE: THE USEFUL POINTS IN ENDONASAL TRANSSPHENOIDAL SURGERY**
T. Hile, S. Yano, N. Shinojima, K. Kuratsu
Department of Neurosurgery, Kumamoto University Graduate School of Medical Science, Kumamoto, Japan.

**INTRODUCTION:** For the safe operation, exact orientation during endoscopic endonasal transsphenoidal surgery (ETSS) is essential. Neuro-navigation systems can be pointed at exact sites, but their spatial resolution power is too low for the detection of vessels that cannot be seen on MRI images. On Doppler sonographs the shape of concealed arteries and veins cannot be visualized. To solve these problems we evaluated the clinical usefulness of the indocyanine green (ICG) endoscope.

**MATERIALS AND METHODS:** We enrolled 38 patients with pituitary adenomas (n = 26), tuberculum sellae meningiomas (n = 4), craniopharyngiomas (n = 3), and chordomas (n = 2); there was one patient each with Rathke’s cleft cyst, a dermoid cyst, and fibrous dysplasia. After opening the sphenoid sinus and placing the ICG endoscope, we injected 12.5 mg of ICG into a peripheral vein as a bolus and observed the internal carotid arteries (ICAs), cavernous sinus, intercavernous sinus, and pituitary. Intraoperative real-time measurement of ICG signals was performed in 4 of microadenomas.

**RESULTS:** The ICA was clearly identified by a strong fluorescence signal through the dura mater and the covering thin bone. The cavernous sinus and the attachment of tuberculum sellae meningiomas were identified through the dura mater. At the final inspection after tumor removal, perforators to the brain, optic nerves, chiasm, and pituitary stalk were visualized. ICG fluorescence signals from the hypophyseal arteries were strong enough to see and spread to the area of perfusion with the passage of time. Elevation of ICG signals was relatively delayed in microadenoma compared to the area of normal pituitary.

**CONCLUSIONS:** In ETSS, the real time and high resolution image of ICA and cavernous sinus with the ICG endoscope is strongly useful. We suggest that the real-time observation of the blood supply to the optic nerves and pituitary helps to predict the preservation of their function, and different elevation pattern of ICG signal between microadenoma and normal pituitary helps to identify margin of them.

**P18.02 COMPARING QUALITY OF GLOBLASTOMA RESECTIONS BETWEEN CARE TEAMS**
D. M. J. Mullie1, P. A. J. Rohe2, F. Barkhof2, W. P. Vandertop1, P. C. de Witt Hamer2
1VU University medical center, Amsterdam, Netherlands, 2University Medical Center Utrecht, Utrecht, Netherlands.

**INTRODUCTION:** The extent of resection is important to improve survival in patients with a glioblastoma. The neurosurgeon’s aim is to maximize the extent of resection, while preserving functional integrity. A standard to assess and compare the quality of neurosurgical care of teams is lacking. In this study we present a novel volumetric method to quantify resection residues throughout the brain for patient populations. This allows direct comparison of surgical results between care teams.

**MATERIALS AND METHODS:** All adults with a newly-diagnosed glioblastoma who had neurosurgical treatment in 2012 or 2013 in each of two tertiary referral centres for neuro-oncological care were included in this study. From each of these patient populations the outlines of preoperative tumors and postoperative residues were segmented on MRI. Tumor and residual segmentations were registered to standard space. Brain maps of tumor resection were compared using volumetric measures.