
Department of Surgical
Oncological and Gastroenterologic Science

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EMSOS Study: Association between IDH1 R132 Mutations and Prognosis in Chondrosarcoma

Study protocol

Aims:

- (1) Evaluate the proportion of patients with chondrosarcomas who carry IDH mutations;
- (2) Evaluate which IDH mutations can be found;
- (3) Compare the oncologic outcomes of patients with and without those mutations, analyzing local recurrence, metastasis, or death to find if specific IDH mutations are associated with poorer prognosis.

Type of study

Retrospective and multicentric.

Inclusion criteria:

- Confirmed histologic diagnosis of chondrosarcoma following the current WHO classification;
- Complete preoperative imaging and follow-up data;
- Surgical excision of the chondrosarcoma: all analyses will be based on the final pathology report;
- Minimum follow-up of 2 years after surgical treatment unless the patient dies.

Analysis of IDH mutational status:

We extracted DNA using the QIAmp FFPE tissue Kit (Qiagen) according to the manufacturer's instructions; extracted DNA was quantified using the Qubit® 3.0 fluorometer and the Qubit® DNA BR Assay kit (Thermo Fisher Scientific) and mutational status of IDH1 (codons 105 and 132) and IDH2 (codons 140 and 172) was assessed using the kit EasyPGX ready IDH1-2, according to the manufacturer's instructions (Diatech Pharmacogenetics). Results were analyzed using the EasyPGX analysis software. This real-time polymerase chain reaction-based assay allows the co-amplification of mutated alleles (FAM-labeled probes)

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and an endogenous control gene (HEX-labeled probes). Amplifying the control gene provides for an evaluation of DNA quality. For each reaction, 15 to 30 ng of DNA were used. This evaluation must be performed in surgical specimens (paraffin-embedded or fresh sections).

Data collection

Electronic database (Excel).

Data collecting Center

Department of Orthopedics and Orthopedic Oncology, University of Padua, Italy