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Do We Need MRI Study before and after Neoadjuvant Chemotherapy?

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MRI (magnetic resonance imaging) is a powerful imaging technique that provides detailed images of the internal structures of the body. It is commonly used in cancer diagnosis, staging, and treatment monitoring. Before neoadjuvant chemotherapy, an MRI scan can help evaluate the extent of the tumor, determine its size and location, and identify any additional areas of concern.

After completing a course of neoadjuvant chemotherapy, an MRI scan is often performed to assess the response to treatment. It can help determine if the chemotherapy has been effective in reducing the tumor size, evaluating changes in tumor characteristics, and identifying any residual disease. The post-treatment MRI can guide further treatment decisions, such as the need for surgery, radiation therapy, or additional chemotherapy.

Nevertheless, limitations such as interobserver variability, inconsistent interpretation criteria, and false positives/negatives should be acknowledged when interpreting MRI findings. Additionally, the lack of standardized protocols and guidelines for incorporating MRI into NAC management further complicates its routine use.

Therefore, it's important to note that the use of MRI before and after neoadjuvant chemotherapy may vary depending on the specific cancer type, stage, treatment protocols, and individual patient factors. The decision should be made in consultation with a multidisciplinary team of healthcare professionals, including surgeons, radiologists and oncologists, who can assess the unique aspects of the patient's case and make the most appropriate recommendations.

Keywords: neoadjuvant chemotherapy, MRI, tumor response, treatment planning, clinical outcomes.