Preface

Oncology Imaging: Updates and Advancements

Imaging is at the core of surgical oncology. Longstanding techniques, such as computed tomography and MRI, as well as nuclear medicine methods, such as PET, have been studied and refined over the years. They form the basis of preoperative staging and complex surgical planning. For a long time, surgeons relied on these preoperative scans, and there was little imaging performed intraoperatively to guide surgical resection.

Recently, there has been an explosion in new imaging techniques and methods. Many of these, such as microbubble contrast for liver ultrasound, are used intraoperatively to guide surgical resection. Several new fluorescence imaging agents are used intraoperatively for tumor localization and margin assessment. Some of these, such as indocyanine green, are nontargeted and work in a variety of tumors. Others, such as 5-aminolevulinic acid, are used in the specific tumors in which they accumulate. Additional imaging agents, such as fluoroestradiol, are used perioperatively to improve tumor identification and plan systemic therapy.

This issue contains a sample of the exciting innovations in surgical oncology imaging, some established clinically, some recently introduced, and some in the pipeline and close to approval. The articles cover a wide range of imaging techniques in a variety of malignancies. They demonstrate the vitality of this field that is welcomed by surgeons looking to improve their operative techniques and oncologic outcomes. The articles also cover some of the limitations to these new approaches, including additional time and cost, as well as surgeon training.

I hope you enjoy reading about the latest updates and advancements in imaging across a wide range of surgical oncology subspecialties. And I look forward to seeing
these techniques developed further to help the surgical management of our patients in the future.

Natalie S. Lui, MD, MAS
Stanford University School of Medicine
300 Pasteur Drive
Falk Building
Stanford, CA 94305, USA

E-mail address:
natalielui@stanford.edu