Photodynamic Nails for Pelvic Stabilization of Bone Metastases using Intraoperative 3D Imaging and Surgical Navigation

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Pelvic metastatic lesions are a source of pain and articular instability in cancer patients. Conventional management (open surgery for instance) of these lesions have proved to have limitations. However, a minimally invasive percutaneous surgical approach could help minimize those limitations. That is why we proceeded on recording a descriptive video on the minimally invasive percutaneous placement of photodynamic nails in a cadaver with pelvic metastatic lesions.

The video consists of a creation of a pathway and the preparation of an interosseous space in the pelvis with the use of navigation, intraoperative imaging, and drill and ball tips. Later on, the implant is prepared, inserted and filled with a monomer. Activation of the light box, implant curing, and the separation of the catheter from the implant represent the final steps of this technique.

We mentioned cases, pre-op and post-op images, and outcomes from previous papers on this technique to justify why photodynamic nails represent a safe and versatile alternative for stabilizing pelvic metastatic lesions.