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Elective Palliative Total Hip Replacement in a Patient With Lymphoma and Advanced Lung Cancer

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Introduction

Total hip replacement is among the most effective procedures in medicine, providing sustained relief of hip pain in more than 90% of recipients, with perioperative mortality rates less than 1% (1–3). The procedure is highly cost-effective and may even be cost-saving (4).

Originally introduced in the 1960s, total hip replacement is presently performed on more than 260,000 persons annually in the US (5). The indications for elective total hip replacement have traditionally included advanced joint destruction and severe pain-related functional loss in otherwise healthy older adults. Data have emerged in the last decade showing that patients operated on later in the course of disease experience worse functional outcome (6). Consequently, the indications for total hip replacement are broadening to include patients with less severe functional loss.

Although the indications for total joint replacement are expanding, the procedure is typically reserved for patients who are generally healthy. Texts suggest that medical conditions that might influence the outcome of total joint replacement should be recognized and stabilized prior to surgery (7).

We report the case of an 82-year-old woman with advanced metastatic lung cancer (not involving the hip) and severely symptomatic hip osteoarthritis (OA) who underwent elective left total hip replacement in order to provide pain relief in her last year or two of life. We discuss the limited literature on the use of elective total hip replacement and similar procedures as palliative care for patients with terminal conditions not involving the index joint. We suggest that total joint replacement be considered as a therapy for patients with symptomatic, advanced OA who are receiving palliative care for terminal medical conditions. More generally, we suggest that a wide range of elective procedures traditionally

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AUTHOR CONTRIBUTIONS

Dr. Katz had full access to all of the data in the study and takes responsibility for the integrity of the data.

Study design. Katz.

Acquisition of data. Katz.

Analysis and interpretation of data. Katz, Brick, Rudd.

Manuscript preparation. Katz, Brick, Rudd.

contraindicated in patients with terminal illness may in fact be entirely appropriate when viewed in a palliative care context.

Case Report

Our patient was a relatively healthy 79-year-old woman with mild depression and hypertension who was living independently and playing occasional tennis when she developed mantle cell lymphoma in 2003. She was treated with cyclophosphamide, doxorubicin, vincristine, and prednisone with rituximab. She had a complete response to this chemotherapy regimen, but in 2004 she developed a left upper lobe pulmonary lesion. She underwent resection of her left upper lobe with a superior segmentectomy. The pathologic evaluation showed a non-small cell lung cancer. She was subsequently noted to have hilar and upper lumbar spine lesions, presumably representing metastatic lung cancer. The patient was treated with palliative radiation therapy.

In 2004 the patient developed left groin pain that worsened progressively, limiting her walking to less than 1 block. She had difficulty cooking and cleaning and had to give up many social activities. Her physical examination revealed pain and severely limited motion with left hip internal rotation. A radiograph confirmed advanced left hip OA. Her staging evaluation included a bone scan, which did not show metastatic involvement of the hip. She tried ibuprofen and physical therapy for her hip OA with minimal effect.

The 3 authors were involved in the patient's care and discussed the possibility of total hip replacement among ourselves and with the patient. The patient understood the higher likelihood of mortality, pulmonary decompensation, and other complications given her underlying lymphoma and metastatic lung cancer. She also understood that she would likely live less than 2 years. Nonetheless, she expressed a strong preference for surgery. She stated that she wished to live independently and to ambulate free of pain in her last remaining months. The patient indicated that she was willing to accept the risk of perioperative mortality and morbidity in order to achieve these goals.

On July 13, 2005 the patient underwent a left total hip replacement. She received a cemented femoral component and an uncemented acetabular component with a 32-mm femoral head. Her postoperative course was complicated by acute, self-limited delirium. She was discharged after 5 days to a rehabilitation facility and then to home.

Within weeks of surgery, the patient regained full mobility and enjoyed complete relief of left hip pain. She remained independent in her own apartment for more than 1 year. She was delighted with her decision to elect total hip replacement and with the results of surgery. In the fall of 2006, she developed worsening pulmonary symptoms. She received hospice care and ultimately died of metastatic lung cancer at her daughter's home on February 21, 2007, 19 months following her total hip replacement.

Discussion

We describe the case of an older woman with metastatic lung cancer and lymphoma whose functional status in her last year or two of life was limited severely by OA of the left hip. The patient had excellent cognitive function, and when presented with the option of total hip replacement, she immediately elected to proceed with surgery, despite the recognition that she would probably not live for more than 2 years. She stated that she wished to enjoy as high a quality of life as possible in the little time she had left. On numerous occasions during her last year of life, she stated her satisfaction with the decision to undergo total hip replacement.

Advanced cancer, severe cardiac and pulmonary disease, and other disorders that threaten overall survival have long been regarded as contraindications to total joint replacement (7). The reluctance to operate in these settings may stem from concern about a higher risk of perioperative complications in patients with terminal disease or from discomfort with using an expensive procedure for patients with limited life expectancy.

We report this case to introduce and illustrate the concept that total joint replacement offers a potent treatment strategy in the palliative care of patients with terminal disease (not involving the index joint) and concomitant advanced arthritis. Given that more than 21 million Americans have symptomatic OA (8), the co-occurrence of advanced cancer and advanced arthritis is not unusual.

We acknowledge that frail, older patients are at higher risk for complications of total hip replacement than younger patients (9). Nevertheless, the overall risk of perioperative outcomes of total hip replacement is generally low (9). Our patient and her physicians felt that the ratio of benefits to risks of total hip replacement in her case was high.

There has been considerable discussion of the use of palliative surgery to improve quality of life in patients with cancer and surgically remediable complications (10–12). However, we are not aware of literature reporting cases such as ours, which illustrate palliative use of elective procedures unrelated to the terminal condition. In general, the literature on palliative care has focused on decision making at the very end of life, typically in hospitals (13). Total hip replacement has not traditionally been regarded as a palliative treatment. Elective total hip replacement for symptomatic hip arthritis in the setting of terminal illness is consistent with core principles of palliative care. These include care that provides relief from pain and helps patients live as actively as possible until death (14).

We urge clinicians to collaborate in the deployment of procedures that provide dying patients with optimal function and pain relief. We recognize that these concepts raise new questions about the risks, benefits, costs, and cost effectiveness of such interventions in the palliative care setting. Research addressing these questions merits a high priority.

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