A 41-year-old woman presented to the emergency department with pain in the lower right quadrant that was presumed to be caused by appendicitis. During surgery, a mass was found that was confirmed by pathology to be a moderately differentiated invasive endometrioid adenocarcinoma arising from extraovarian endometriosis. Chemotherapy was administered peripherally for several months; however, venous access became a problem. The patient was referred to interventional radiology for port insertion in order to continue chemotherapy.

Two weeks later, the patient began to show symptoms of a bowel obstruction. A spiral CT scan of the abdomen showed a right pelvic mass that was obstructing the sigmoid colon and the distal right ureter, with associated hydronephrosis. A self-expanding metallic colonic stent was inserted by an interventional radiologist.

This article has been peer reviewed.

Competing interests: None declared.

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interventional radiologist using fluoroscopic guidance. Subsequently, a right ureteric double J stent was placed to relieve flank pain caused by pressure from hydrenephrosis. The patient’s symptoms of bowel obstruction resolved almost immediately following insertion of the colonic stent. However, 1 month later, she experienced another bowel obstruction. A repeat spiral CT scan showed that the colonic stent was in the appropriate position. This time, we felt that the small-bowel obstruction was secondary to the adhesions, and surgical resection with an enterenteral small-bowel anastomosis was performed.

Nine days after the operation, the patient had increasing pain in the lower right quadrant, fever and leucocytosis. A CT scan revealed a pelvic abscess and an unsuspected right iliac venous thrombosis. A central catheter was inserted peripherally to provide antibiotic therapy, and the abscess was drained percutaneously. Given the relative risk of anticoagulant therapy to a patient undergoing various procedures, we elected to insert an inferior venous caval filter to protect her from a pulmonary embolism. The patient was discharged home (having normal bowel movements) 2 weeks after the last interventional radiology procedure (Fig. 1, Fig. 2, Fig. 3) was performed. She died of the adenocarcinoma 3 weeks after being discharged.

Six minimally invasive interventions were performed to provide palliative care to our patient. These types of interventions reflect a partial shift away from open surgical techniques (e.g., abscess drainage, colostomy) to those performed by interventional radiologists. There is increasing evidence that these procedures are safe, effective and result in cost savings compared with open surgical techniques. For example, colonic stents have been advocated as a bridge to surgery and, more importantly, for the treatment of malignant obstructions in patients receiving palliative care. In the latter case, stenting prevents the need for a colostomy and allows the patient to eat normally (compared to enteral feedings or total parenteral nutrition) and to leave the hospital earlier. The success and complication rates of colonic stent placement are within an acceptable range. A systematic pooled analysis that included 54 published reports with a total of 1198 patients found a technical success rate of 94% and a median clinical success rate (relief of obstruction) of 91%. Major complications included stent migration (11.8%), recurrent obstruction (7.3%), perforation (3.8%) and death (0.58%).

In the case we have described, the peripherally inserted central catheter and subcutaneous ports allowed the patient to return home and continue the antibiotic therapy and to receive chemotherapy as an outpatient. The inferior venous caval filter has been established in the prevention of pulmonary emboli in patients who cannot receive standard anticoagulation therapy, including patients receiving palliative care and who have a limited life expectancy. Urinary tract obstructions can be relieved by renal decompression through percutaneous nephrostomy or ureteric stent insertion, which preserves renal function, reduces pain and prevents a potential source of sepsis.

There are many minimally invasive procedures available to patients who require palliative care (Box 1). The goal of palliative care is primarily to improve the quality of the patient’s remaining life and secondarily to prolong their life; thus, physicians should consider a referral for interventional radiology procedures at any point if they believe that it may help with either of these goals. Patients with an expected survival of less than several days would generally not be candidates, although this depends on the complexity of the procedure being considered.

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Competing interests: None declared for Mark Baerlocher. Murray Asch is a paid consultant for and has ongoing research with Roche, Cook Canada and Boston Scientific and holds stock in Boston Scientific.