Chapter 15
Rectum: Management of the Urgent APR and Dissecting the "Frozen" Pelvis

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Problem Analysis

Continued bleeding PR, presumably of a significant degree, requiring multiple transfusions of blood and blood products and invasive interventions in a clinical scenario of recurrent, advanced cancer with very limited palliation.

Therapeutic Interventions

These must be planned with a consideration of

1. Recurrent, fixed (inoperable for cure) cancer that makes total resection extremely difficult and dangerous.
2. Postoperative, postradiation frozen pelvis with dense adhesions that make iatrogenic injury to vital structures very likely and massive intra-operative blood loss and intra-operative mortality a distinct possibility.

Even though the editors give me the suggestion of an emergent abdominoperineal resection, I consider it a last resort. My steps for a therapeutic solution will involve the following:

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Preoperative [1]

1. Since this is a palliative and not a curative approach with a very limited scope for meaningful palliation, what are the patient's and family's approach to end-of-life decision?
2. If their decision is to do whatever is necessary, after a thorough discussion with them I will consider any of these following ancillary measures to control or diminish the bleeding:

   (a) Correction of all bleeding diatheses and correction of coagulopathy;
   (b) Preoperative angiography and embolization of bleeding vessels;
   (c) Preoperative angiography and occlusion of internal iliac arteries (may not succeed if the bleeding is from the anal verge and the branches of external iliac artery);
   (d) Endoscopy in the lithotomy position, debridement of the tumor with or without fulguration, and application of pressure packs with or without hemostatic substances (e.g., quick clot);
   (e) Cryoablation to stop bleeding; and
   (f) Irradiation of the tumor to stop bleeding.

3. If none of these is successful, it is mandatory to (again) have a detailed, frank discussion with the patient's family or health proxy. Encourage them to consider comfort measures and hospice treatment, since the prognosis for short-term and long-term palliation is dismal and prolonged morbidity and/or death with a need for colostomy is a distinct possibility with operation.
4. Pelvic exenteration is an option for recurrent rectal cancers, but I do not consider this fixed tumor at the anal verge as a candidate.
5. Urgent exploration for resection of the tumor to control bleeding by APR is a horrendous approach for this particular scenario. If unavoidable and the surgeon is forced into it, the following points should be kept in mind (if time and patient's hemodynamic status permit):

   (a) Preoperative ureteric stents by the urologists;
   (b) Preoperative bowel preparation and antibiotics;
   (c) Bladder catheterization;
   (d) Insertion of a rectal tube of a large size to enable easy identification of the rectosigmoid in the "frozen" pelvis;
   (e) Try to schedule the operation electively, early in the morning (first case) and have additional senior help available, if possible;
   (f) Solid grounding in pelvic anatomy, with live experience involving varying degrees of pelvic distortion;
   (g) A realistic expectation that the operation will be difficult and fraught with hazards;
   (h) Flexibility to change course when a particular pathway proves too risky, or even abandon the procedure, if necessary;

Operative [2]

Laparotomy: Use a midline low incision to attempt to get into the pelvis. Proceed from the right paracolic gutter, rather than from the left side because of previous surgery. Dissect in the retrovesical space, feel for the stented ureter, and identify the iliac vessels. Holding the colon in the left hand of the surgeon standing on the left of the patient, stay close to the rectosigmoid and try to dissect it free from the surrounding important structures.

Remembering that this is a palliative operation, if one can get around the rectosigmoid at the upper edge of the fixed, recurrent tumor, divide the colon with a stapler, and bring it up to the left lower quadrant. Concentrate on identifying both ureters and carefully mobilize all small bowel loops out of the pelvis.

(Useful trick: There are bound to be inadvertent iatrogenic enterotomy because of radiation and past surgery in the pelvis. Use these unavoidable enterotomies to advantage by inserting your index fingers inside and judge the direction of the matted loops proximally and distally. With the finger inside guiding a "road map," mobilize the bowel loops. Accept multiple enterotomies but do your best to keep them in all the same or adjacent loops, so that we can minimize the amount of small bowel that needs to be sacrificed. It is helpful to dissect more on the anti-mesenteric walls). Once reasonably free from the rectosigmoid (the large rectal tube in the rectosigmoid will help identify the large bowel), pack the small bowel out of the pelvis. Remember, this operation is for anal recurrent tumor, so concentrate on getting into the rectosigmoid and not carry out extensive adhesiolysis of the small bowel.

Proceed to the pelvic part of the operation and complete, to the best of your ability the freeing of the lateral pelvic ligaments (even through the tumor), as long as the small bowel and the ureters are free of danger. If the major bleeder could be identified at this point, transfix it with large 0-silk sutures. Otherwise, transfix the lateral ligaments with large 0-silk sutures, sometimes multiple. Cut through the anterior portion of the recurrent tumor if adherent to the bladder and excise the anal canal, recurrent tumor surrounding skin, etc. with electrocautery turned high.

Secure the major bleeders with transfixing sutures, pack the entire pelvic wound with sheets of hemostatic substances like Quick clot, consider introducing a three-way foley catheter into the pelvic wound and inflating the balloon with a large amount of saline to compress the soft tissues of the pelvis for hemostasis. The packs can be used to supplement this pressure.

This patient is most likely not very stable at this time with the inevitable extensive blood loss and multiple transfusions. He will clearly benefit from a "damage control" approach and an abbreviated, truncated procedure, after rapid resection and stapling off of traumatized small bowel with iatrogenic perforations, temporary abdominal and pelvic closures with prosthetic mesh. He may be returned to the O.R., after physiologic improvement by SICU resuscitation within 24 h, for colostomy construction and closure of abdomen (to be very optimistic).

Potential, Anticipated Complications [3]

Continued bleeding from residual tumor
Massive blood loss, massive transfusion, and coagulopathy
Intra-operative hypotension, cardiac arrest
Iatrogenic injury to small bowel, ureter, and iliac vessels
Inability to mobilize and resect the entire recurrent tumor
Inability to close the abdomen
Pelvic wound infection, disruption, and pelvic sepsis
Multiple-organ failure and death

Much of this morbidity may be avoided by accepting the inevitability of a terminal outcome from advanced, recurrent, fixed cancer.

Summary

In summary, this is a desperate case scenario of uncontrolled bleeding from an advanced, recurrent, high-grade and fixed tumor in a male pelvis that is beyond cure and unlikely to be amenable even for meaningful palliative resection. If non-surgical approaches did not stop the bleeding, I would try very hard to convince the family to pursue only hospice care and allow the patient end of life with dignity and compassion.

Clinical Scenario
56-year-old man who presents with ongoing bright red blood per rectum. He is 2 years s/p low anterior resection for a mid-rectal cancer with accompanying chemotherapy and pelvic radiation. Rectal exam reveals a large firm fixed mass at the anal verge with ongoing bleeding.

Key Question

1. *Is there role for formalin enema to palliate rectal bleeding? Multiple studies have showed efficacy of 2 percent formalin enema to palliate rectal bleeding from* ***radiation proctitis. In one series 78.2 percent responded positively. More than one application was required in 34.7 percent of the patients. The procedure was well tolerated and most of the side effects were mild. (Raman RR : Dis Colon Rectum. 2007 Jul;50(7):1032-9.)***

References

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3. Bonello VA, Bhangu A, Fitzgerald JE, Rasheed S, Tekkis P. Intraoperative bleeding and haemostasis during pelvic surgery for locally advanced or recurrent rectal cancer: a prospective evaluation. Tech Coloproctol. 2014;18(10):887–93.