Complications Related to Anterior Exposures for Spine Cases

These procedures are done in combination with the orthopedic spine surgeon(s) or a neurosurgeon. We both put our expertise together for better patient care. They are in charge of performing the procedure in your spine and I, as a vascular surgeon, am in charge of safely exposing the spine for them, through an anterior approach.

The reason why a vascular surgeon gets involved is because the spine is in the vicinity of the aorta, inferior vena cava, iliac vessels, arteries and veins. There are many vital and important anatomical structures in the area; such as the ureter and the nerve plexus in charge of the erection and ejaculation in males. The bowels and colon need to be displaced inside the peritoneal cavity in order to approach the spine. Because of the vicinity of all these organs, there are many potential complications with the exposure of the spine, in addition to the ones related to the spine procedure.

What my procedure entails, is opening an incision in the lower abdomen (depending the spine level which will be repaired), going thru fascia, displacing the peritoneal cavity with all the intraperitoneal organs included; in order to expose the retroperitoneum and spine. Some retroperitoneal organs, such as the ureter will also be displaced. Because of this, there are many potential risks with these procedures.

The possible risks and complications include, but are not limited to:

- Bleeding – due to the above mentioned location of major arteries and veins. The artery can be severed accidentally and will need to have blood product transfusions, repaired by stitching it, or by placing a graft.
- Thrombosis of the artery which can lead to a cold, ischemic limb – needing a thrombectomy, bypass or fasciotomy in which we would need to close these wounds later.
- Amputation, either above or below the knee if an ischemic limb complication happens.
- Iliac Vein Injury - repaired by stitching the vessel or packing the retroperitoneum with laps and leaving the wound open.
- Resuscitate the patient in the ICU.
- Transfuse blood products, if needed.
- Return to the operating room for unpacking and continuation of the procedure.
- Iliac veins can thrombose and produce deep vein thrombosis (DVT), with subsequent lower extremity edema – in need for anticoagulation for months until the vein recanalizes or use of the vena cava filters to avoid migration of the clot.
- Future potential risk of developing ulcers in the leg - Post Thrombotic Syndrome.
- Pulmonary Embolism - that can be fatal.
- Bowel or Colonic injury - needing repair so we would stop the procedure due to the high risk of infection. Repeat the procedure again when it heals completely.
- Ureteral injury - needing repair by putting a stent in it or bringing the ureter to the abdominal wall to drain the urine in a bag (ureterostomy) or even the possibility of removing the kidney.
- In males, there is risk of injuring the pudendal and hypogastric nerve plexus having subsequent problems with erectile dysfunction or retrograde ejaculation. If there is a concern with the desire to have children, than the patient should seek medical advice on collecting sperm prior to the procedure.
  - In the incision, there is low risk of wound infection, dehiscence, hernias - needing to repair them later.
  - anesthesia risks, pneumonia, MI (heart attacks), stroke and even death.

After the procedure:
- Keep the wound clean and dry, leave the steri strips in place, they will peel off by themselves in 8-10 days.
- You may shower 48 hours after surgery.
- Watch for redness, drainage from the wound.
- No heavy lifting (more than 15 lbs.) or strenuous exercises for at least three months.