Thoracic Surgery Guides (dump)

From Raad

Ok for future reference let everyone know management of elevated fluid amylase/suspected leak for hemodynamically stable patients is discharge home NPO with JP drain, Antibiotics, Reglan around the clock to prevent biliary reflux, and Somatostatin 100iu TID to minimize GI secretions (can titrate up to 250TID if output is more than 300/24 hours to bring output to <300 prior to discharge. This should be standard of care.

For the Raad esophagectomy part, can you add that patient's are typically advanced to sips of water, ice chips, and meds POD1? ALso add in that on POD2 if no increase in JP drain outputs or drain amylase then they would be advanced to full liquid diets. Then advanced to soft diet/post gastrectomy on POD3-4. The patient is then discharged on the soft diet/post gastrectomy diet.

All post-gastrectomy patients should be on IV reglan 10mg TID.

All post-gastrectomy patients should get a lactic acid level checked post-operatively and checked daily until normalized.

Chest tubes are placed to waterseal on POD1 at 5am prior to chest XR.

Thoracic to know

THORACIC SURGERY LAW
Always make sure you tie the chest tube AFTER muscle layer is closed and move it back and forth!!!!!!

DO NOT ORDER CXR (EVEN DAY AFTER) UNLESS THERE IS A PATIENT CHANGE CLINICALLY OR UNLESS YOU MAKE A CHANGE TO THE pleuravac or other settings.

Pre op
See pt in POCU
Speak to nurse and make sure everything in and ready for surgery
Make sure all orders for preop are in and released before patient is rolled back
Ensure consent is in before 0730
Interval HP

Post op
Be sure to check on site if it is damp and then that chest x-ray shows fluid that could be the cause always make sure to doublecheck the tubes. Make sure it’s not the output

check the wound side to see if the dressing is saturated make sure to ALWAYS check in with the nurses to get updates Regardless of Dr. Joob rounds make sure they know you are in charge of the patient

When you have concern about an immediate post op effusion:
1. See the patient. Make sure VSS
2. Check sats, A&O etc..
3. Make sure chest tube not kinked
4. Check amount of drainage since surgery
5. Check consistency of drainage (thin or bloody serosanguinois or sanguineous
6. Mark chest tube and instruct nurses to document hourly output
7. Check the H&H if not checked yet in pacu
8. Make sure pain is well controlled/check medication patient taking

Put pressure or ice pack so it doesn't keep saturating

The consolidation in the Right upper region is most likely a parenchymal contusion from stapling. Let him and nurses know to expect hemoptysis.

CXR
pneumon <3 cm considered small

NEVER MOVE CHEST THBE BACK UP because portion pulled out is now unsterile and it must be sterilized with heat not chloroprep

For BPF- Coughing up liquid, new PTX esp after recent lung surgery, keep pigtail and do Bronchoscopy to find it

Look up BPF bronchial pleural fistula
DM, steroids, if they get radiation, malnourishment usually flaps are used for bronchial stumps
Anything that effects micro vasculature dz
The fluid level starts to drop after min ectomy there could be a BPS and it's very concerning
Just x-ray should wipe out where the new anatomy was done overtime which is normal

For pneumonectomy pts No more than 50cc of fluids!!! Once pt starts drinking cut the IV fluids
Don't want them to be fluid overloaded only have one lung

Is it coming from staple line on bronchus is air leak with pbeumonevtomy and lobectomy

ALWAYS ENSURE CXR ORDERED
ALWAYS restart PTA meds after pharmacy med recs
Mucous shifts trachea toward side of problem trachea will follow
Air pushes towards opposite
Consolidation things stay in the middle
Review your pathology and cytology for all procedures

After surgery post op orders(or before) make sure to check CXR!!

If continuous air leak off suction (water seal) and order xray

Ask to cough and see if air bubbles air leak

A little bit is fine

Ion robot 6.25 but at least 1.25
Suction is working when orange balloon expands

Pigtails!!!
Never cut the ones we use in the OR. The ones placed by IR there's a switch
You never need to cut a properly functioning tub
No need to cut the white ones
And if you do need to cut a tube you must always ensure it's clamped towards the patient side or it will suck air into the chest

Ivor lewis esophagectomy

Always order nebulizers and ipratropium!! For esophgectimy

Round in morning OR and then round afternoon

Close to 100 alarming keep close eye on pluera vac
Thin fluid serosangujinous like is fine
If really thick and forming blood clots then that's concerning and qualifies as blood

No beta blocker at home!!

God Cough off suction on water seal

Is ball moves tidaling but not air bubbles then good to remove chest tube always check with Raad

If bubbles suctioning

If not tidling can take out tube

With pneumonedistinum Is their vomiting or instrumentation to esophagus
Rule out perforation

Esophguas wont rupture on its own is no vomiting procedure of history if large mass Very low suspicion for perf

ruptured blebs causes by positive pressure (if intubated)for pneumediastinum

When it comes to esophageal perforations check to see if they had a TEE any proves in the esophagus or an EGD more recently.

If younger pt could order and esopghgram

5000 units q8 heparin

Espphagetomy strict NPO 5 days will stay in until can eat need to ensure will ky come back to icu

Standard normal pt doing well then Clamp next day and start feeds except for ileus!!

Press buttons to drop ball, Bo air leak on water seal big cough on water seal and see if bubble

If air leak then xray
If not air leak remove cheat tube and then cxr

If doing well and cxr good then can go home

Foley stays in as long as epidural is in

Esophagectomy POD#0
No pressors, resuscitate by fluids
Esophagram by day 5

The reason for no pressers after esophagectomy is to protect the conduit from ischemia. The blood supply to the conduit is restricted to the right garlstroepiploic artery because we have to divide the elect gastric artery in order to be able to pull up the conduit into the chest. When you give pressers to a post esophagectomy patient, it causes vasoconstriction which will stop the blood supply to the conduit and it gets ischemic.

For perforations there is no concern for the blood supply so normal resuscitation with fluids and pressers if needed per sepsis protocol will be the way to go

Esophageal cancer recurrence occurs in liver
Amylase determines leaks in esophactemo because amylase comes from mouth when swallow if it byilds up in mediastinum

CRP non descrip anti inflammatory for esophageal
If it goes up to high can indicate a leak

If abscess get IR drain in abscesss

Pneumomediastiumnum
Esophageal perforation
Is pt on PAP? Any recent instrumentation? Are they vomiting? Is no the no need for esophagram

With pneumothorax increasing with subq air there may be a leak

J tube NO bolus feedings because jennostomy is small don't wany yo give yoo much, if taking enough PO can do intermittent bolus

Calorie and half per 800cc give 70 an hour for 12 hours during night

Keep j tube at 50

Calorie 30 per kilo so 2400

Peak exp flow pressure in ET was going up may have to increase tidal vol breath more

FEV1 predicts surgery
Pre- pre bronchidilator
Post- After brnxho - small increas

DLCO -diffusion capacity ability for lungs to exchange oxygen

Look at FEV1 and DLCO

If take out lobe you would drop DLCO & FEV1 a certain amount
Threshold FEV1 > than 1 L and DLCO > 40%

V/Q scan
100-percent
100-13.1
.87x50 = 43.5.
Then multiply by
Multiply Fev 1 and dlco
As long as >40% pt will be fine

No anticoagulants for procedures if ASA then no more than 81mg

Carcinoid, sleeve
Bronch in 3 months
Then CT in 6 months follow up in clinic

For urinary retention is >600 cc as long as the patient is arousable and asymptomatic then they'll be fine. Our threshold would be 750cc

If patient is symptomatic or not alert and over 600 cc in straight capth

Started with tap water enema then docusate enema (colace) then fleets enema (sodium bisphosphate)

Mineral oil enema will soften if in the rectum only more local

Biscodyl suppository goo for maintenace

PleurXcath Malignant pleural effusion mesothelioma
We wanna keep to -20 section for 48 hours only postop chest x-ray no need to further chest x-rays, strict I&O in SICU , & service yo home care order

- drain care, closed chest drainage system provider to follow home care is their PCP, reason for home bound status is high risk for infection because of drain drain two days a week maximum amount and irrigate after drain with sterile Celine

Remove fluid order

Thymoma panel
Myasthinia gravis because it's one of the causes
Beta HCG (for germ cell) and alpha feta protein

Beta HCG positive in seminomous germ cell (usually reaolves withchemo)
Alpha feto protein positive in (nonseminomous germ cell (chemo done first then follow ip if needed with thoracic)
Testicular US should be done for work up

Long term steroids
when a patient is on long-term steroids usually 20 mg greater than three weeks I wanna ensure they get a stress dose of steroids prior to procedure postop every eight hours and then if there are hemodynamically stable postop day one then we can restart their home prednisone if hypotensive give them another stress dose stress dosing would be 100 mg hydrocortisone Every eight hours

If symptomatic brady
Acls
BAT

Transcutaneouy

Decortication
If fluid occupies more than 30% of lung or if infected

Blushes
IR won't embolize unless there is a blush
Bluss is when contrast is pushed to find a bleeder contrast to time CT scan

Consult ex:
he has this extra plural thoracic hematoma, bleeding from one of his rib fractures/ intercostals. we have several CTs now it's getting larger. IR is on Page regarding embolization if that's a possibility (small blush on CTA) . but either way it's a lot of blood and I'm guessing it's going to need a clean out.

63 y/o mail with past medical history of alcoholic cirrhosis presented yesterday to the ED secondary to falling down several stairs and was down for 10 minutes. GCS of 14 on arrival he has a right hand into a lateral lower chest, hematoma, acute comminuted and displaced medial right clavicular fx, right rib fx #six and #7, right posterior rib fracture #11 acute left rib fxs #10 and #11, acute right L1 & L2 TPS fxs and small posterior pelvic subcutaneous contusions.
Overnight drop in hgb from 8.3 at 1251 to 7.6 at 0538 and increased right hemothorax w/extravasation

Raad's plan:
I would recommend correcting INR with FFP, to less than 1.2 before procedures. Monitor H&H, consider IR embolization as well as an IR drain placement in the base. No Thoracic Surgery intervention in this current situation as the risk of more bleeding and risk of recurrent hemothorax are higher than the chance of being able to control the bleed and evacuate the hemothorax. (Due to his alcoholic Cirrhosis and coagulopathy)

For hiatal hernia repair or paraesophageal hernia repairs if they are having if they're difficulty burping or pain from feeling bloated, you can give some simethicone PRN

For hernias Ensure give a week of colace and PRN reglan and zofran for DC meds

In the situation where post op pt starts to desat or feel short of breath while on water seal then put back to suction immediately order a stat chest x-ray. Make sure the nebs

are around the clock and do aggressive chest PT order. If patient is clamped and begins to experience SOB, desat symptoms again, get a stat CXR

Hi flow can help resolve the PTX

If a patient continues to have hiccups, and there was surgery done around the diaphragm always rule out sub phrenic abscess

Hematoma pt likely bleeds slowly no change in vitals vs hemorrhaging likely tachy, cool

Tiny tears in the esophagus can be stunted by G.I. if the effusion is minimal

- could be boerhaave's syndrome

Larger effusions indication a larger tear/ perforation

For recurrent aspiration pneumonia
Bravo study should be done GI, manometry then refer to thoracic surgery

Ordering supplies

None dme supply
Wound vac

Usually for spontaneous, no intention pneumothorax you can do a nitrogen washout

Pneumothorax is that continue to increase due 100% nonrebreather for nitrogen washout therapy
One in wash technique is useful as a non-invasive method for the reduction of non-critical pneumothorax disease

Spontaneous with the rocks describes the occurrence of a nontraumatic hemothorax

Osmolite (no fiber) and Jevity (with fiber)

Granulomas grow then usually stable

Carcinoids are round not spiculated typically

If there is no atrium or valve, you can use a U leg bag

Urine sodium is a good predictor of hypo vs hyper Coleman and to see if her kidneys can reabsorb sodium

Don't want to drop pressure because he's in afib

Dynamic fluid shifts on POD3 is typical to cause transient Afib. There is no need to treat he even is already on AC at home

Drains and drain amylase algorithm post esophagectomy:

I use drain amylase in conjunction with normal clinical signs/symptoms to help avoid the need for imaging and guide initiation of oral intake post esophagectomy while not missing the possibility of a delayed leak. It is important to keep in mind that it is not a very specific test. Therefore, patient clinical status always takes precedence and at any stage post op, if patient has clinical signs of fever/sepsis, hemodynamic instability etc…consider imaging regardless of drain amylase values.

Pleural Fluid Amylase Trends:
Drain amylase should be trending down or hovering around the same low numbers, and/or should remain below 130 on POD 3 and POD4-6.
If on POD3 and/or POD4, 5, or 6 Drain Amylase is >130 then obtain Esophagogram or CT Esophagography regardless of clinical condition. If negative for leak, keep JP for 2 weeks and can Discharge but keep npo with sips on JTube feeds for 1-2 weeks and advance gradually then DC JP in office if doing well.
If Imaging above is positive for leak keep drains indefinitely, consider Esophageal stent, etc…
If drain amylase trending down and <130, and patient doing well clinically, would consider advancing diet on POD 4 or 5 as tolerated. And check drain amylase the next morning after PO diet. If it bumps to >130, get imaging before resuming diet.
There are 2 drains in the chest. A JP covering the anastomosis and a channel drain placed posteriorly. The channel drain can be removed if patient tolerating Tube feeds and no increased output or chylothorax. If no feeding tube was placed, keep channel drain until patient taking fulls with no chylous output or high volumes of drainage. The

JP drain is tunneled under the skin and can stay for as long as there is an anastomotic leak or a concern for a possible anastomotic leak.
When patient is tolerating Full liquids diet, and drain output is normal serous or serosanguinous and not increased, no signs or symptoms of leak, it is ok to remove the JP drain.

FYI Regarding Post op Afib:

1. Beta blockers are the first-line agents for rate control in post-esophagectomy atrial fibrillation, with either rate control or rhythm control being acceptable initial strategies depending on hemodynamic stability and symptoms.
2. For AF persisting longer than 48 hours in these patients, a rate control strategy combined with therapeutic anticoagulation is recommended by AATS
3. For patients with hypotension, heart failure, or left ventricular dysfunction, intravenous amiodarone can be useful for rate control when other measures are unsuccessful or contraindicated.
4. The traditional concept that cardioversion is safe without anticoagulation when AF duration is less than 48 hours has been challenged by more recent data. So all patients getting cardioversion (chemical or electrical) would need to be anticoagulated and a left atrial appendage clot should be ruled out prior to cardioversion.

For COUGHLIN:

For Coughlin chest tube will stay to water seal into a postop x-ray. If the lung is up and looks good, keep to water seal, even if there is an air leak.

you must never start dvt ppx until personally seen by a service member to confirm chest tube outputs are not too high and the patient is otherwise hemodynamically stable

NEVER ANY LABS POST-OPERATIVELY UNLESS DISCUSSED WITH COUGHLIN