New Hampshire Healthcare-Associated Infections Annual NHSN Workshop: March 7, 2016

Case Studies

Presented by Your ICP Colleagues

NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs *for all*
New Hampshire Department of Health & Human Services

Protocol reminders

- POA does not apply to SSI
- Bilateral KPRO, HPRO = 2 procedures

Overview: Case studies

- Goals
  - Optimize inter-rater reliability
  - Optimize data quality
  - Learn how to apply definitions correctly
- Surveillance ≠ clinical
- Like during NHICEP, we are using adapted case studies from our reporting partners here in NH (as opposed to using case studies from NHSN). Thanks to those of you who share these with us!

Case study 1

- 75 y.o F admitted with abdominal pain and vomiting due to lymphoma of the pancreatic head
- Mediport was accessed on 7/22
- 7/29: T 38.4, blood cultures drawn and grew Grp. A Strep
- CT on 7/29: large mass on pancreatic head, newly placed transhepatic biliary drain seen, as well as ascites

Case study 1, cont'd

- Is this…
  - A CLABSI? ☑
  - Secondary BSI?
  - POA?

Case study 2

- 81 y.o M with hx of lymphoma admitted on 8/22.
- On 8/23 he had his mediport revised in IR and changed to a Vortex port to be used only for photopheresis.
- The new port was accessed on 8/23 in IR but was never used by floor staff nor was it used for photopheresis; per photopheresis staff it was never used and photopheresis was done using a peripheral IV

Case study 2, cont'd

- Blood cultures on 9/4 grew K. pneumonia; pt subsequently passed away on 9/5
- On autopsy, pt was found to have gram negative bacilli in the bladder

Case study 2, cont'd

- Is this a…
  - A CLABSI? ☑
  - Secondary BSI?
  - Primary BSI?

Case study 3

- 43 y.o F admitted 10/26 with new diagnosis of lymphoma
- PICC placed on 10/29
- On 11/10 T 38.5 and blood cultures drawn and grew P. aeruginosa
- CT on 11/10 negative for acute abdominal process
- Fluid from mandibular collection on 11/12 grew Prevotella spp. And
- CT on 11/10 concerning for infection around molar.

Case study 3, cont'd

- Is this a…
  - A CLABSI? ☑
  - Secondary BSI?
  - Primary BSI?

Case study 4

- June 24
  - Patient undergoes Bilateral knee surgery
- Sept 12
  - patient has knee manipulation under anesthesia and lysis of adhesions for the right knee only.
- November 21
  - patient is seen in the outpatient clinic. The distal incision is swollen, warm, discolored, erythematous. The patient does NOT have a fever. CRP 4.5 (normal range 0-0.9) WBC=8.7 (within normal range)
- November 26
  - superficial wound culture=no growth
- December 1
  - Patient given Bactrim

Case study 4, cont'd

- Following year
- 6/26
  - Patient under goes remove of hardware, irrigation and debridement of right hip.
- 6/25
  - Deep wound cultures obtained in the OR at time of surgery grow: Staph lugdunensis
- 9/9
  - Removal of preformed antibiotic spacer with irrigation and debridement of right knee and replacement of revision of right total knee arthroplasty

Case study 4, cont'd

- Is this an HAI?
  - Yes ☑
  - No
- Is this reportable in NHSN?
  - Yes
  - No ☑

Case study 4, cont'd

- If pt gets an infection after 9/9 would this meet PATOS definition?
  - Yes ☑
  - No
- If so, would you report it in NHSN?
  - Yes ☑
  - No

Case study 5

- Patient had a laparoscopic bilateral salpingectomy on 12/3.

- On 12/14 she was readmitted with severe abdominal pain and acute abdomen with generalized peritonitis secondary to rectal perforation and had a exploratory laparotomy, drainage of multiple intraabdominal abscesses, lysis of adhesions, diverting end colostomy XLAP/COLO.

Case study 5, cont'd

- The 12/14 procedure's culture grew out K. pneumonia and E. coli from the return to surgery on 12/14 and is evidence of infection linked back to the original procedure performed 12/3.

- It met NHSN organ/space definition with specific organ/space infection site OREP.

Case study 5, cont'd

- During readmission the patient had a CT with contrast on 12/23 = “large left paracolic gutter fluid collection measuring 21 x 10 x 9 cm. This collection is amenable to percutaneous drainage.”
- The peritoneal abscess was drained under CT guidance with retrieval of 200 mL of fluid.
- A 12-French locking biliary drain with side holes extending along the shaft of the drain was placed.
- The culture on 12/23 grew out E coli.
- This is evidence of infection linked back to the XLAP/COLO performed 12/14/15.

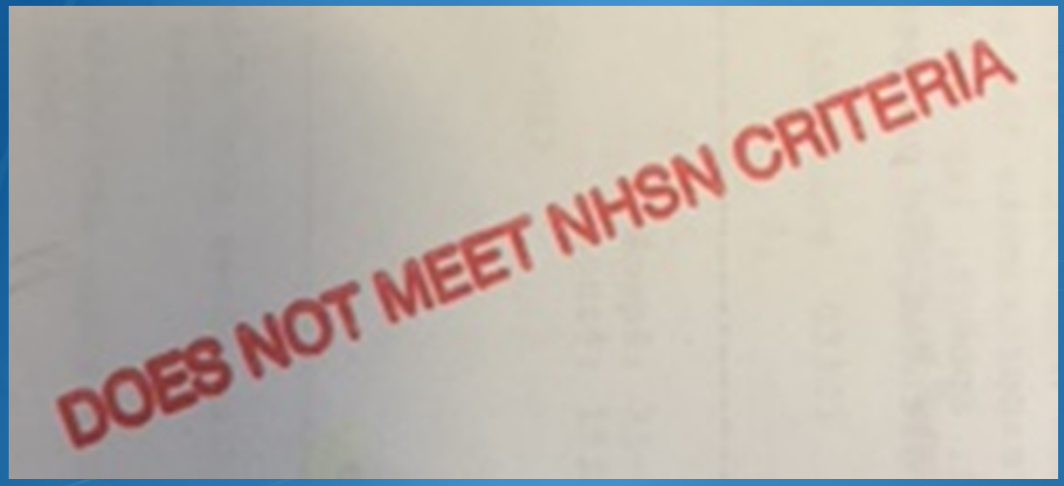
Case study 6

- Patient had a C-section on 11/17 and came back to the ED on 11/29. Felt warm, had pain in and around the area of pannus and a pulling sensation. Next morning, pt had a rush of bloody fluid from the incision site. Pannus was red and warm to the touch.
- Physician found her to have a C-section dehiscence and a superficial panniculitis cellulitis…

Case study 6, cont'd

- “ABDOMEN: Obese. It is otherwise soft and nontender without any peritoneal signs. However, towards her pannus there are some striae noted. There is some erythema and warmth along the length of her lower pannus. It is quite indurated. It is tender. It is warm. The erythema extends just to the superior portion of her incision site. Her incision site appears clean, dry, and intact until you get to the lateral right 1/3 where there is about a 2-cm dehiscence, which is draining some serosanguineous fluid. It is not particularly tender. “

Case study 6, cont'd



Case study 7

- Patient had a CABG done on 6/9
- Returned with right leg cellulitis and draining seroma and underwent excisional debridement, washout and placement of wound vac at the site of the vein harvest site on 7/14.
- Returned with MD diagnosis of wound infection (in the site of the surgery done on 7/14) on 7/30 with deep wound culture that grew moderate MRSA.
- Is this a…
  - SSI?
    - Yes ☑
    - No

Case study 7, cont'd

- What procedure would this be attributed to?
  - 6/9 CABG

    OR
  - 7/14 debridement of vein harvest site ☑

Case study 8

- Patient originally underwent surgery 10/28 for colon cancer. Readmitted a day later with abdominal distention and ileus, treated conservatively, but went back to the OR 11/12 for an Xlap with colon resection with insertion of a L IJ line. He had severe pain & CT showed free air and fluid. He went back to the OR 11/15 and found to have a distal ileum perf, had a bowel resection and ileostomy.
- Temp spike 11/15 100.6 & 11/16 100.8
- 11/16 blood culture 1 of 2 = Klebsiella oxytoca, ESBL+
- IJ line d/c 11/22

Case study 8, cont'd

- Is this a…
  - A CLABSI? ☑
  - Secondary BSI?
  - Primary BSI?

Case study 9

- July 13: Patient underwent laparoscopic right inguinal hernia repair with mesh
- Presented to ED following day with distended abdomen, no fevers/chills, but elevated blood count, fevers evolved to 102.4.
- July 19: Back to OR for Xlap, Removal of mesh, and small bowel resection/primary anastomosis due to perforation. There was significant stool contamination intraperitoneally and patient developed septic shock and multi-organ failure.

Case study 9, cont'd

- Ongoing low-grade fevers until 7/25=T100.8, 7/26=101.7 and c/o persistent abdominal pain, nausea, vomiting and ongoing leukocytosis.
- Surgical culture 7/19 of abdominal cavity/peritoneal fluid cultures grew *Prevotella buccae, C. albicans, Streptococcus viridans, and lactobacillus species.*
- Surgical wound with VAC dressing in place showed no s/s of infection.
- CT did not show abscess formation.

Case study 9, cont'd

- Is this a SSI?
  - Yes, Organ/Space (per NHSN)
- What surgical procedure does it link back to?
  - Hernia
- If called an Organ/Space infection, what is the specific infection site?
  - IAB (intraabdominal – criteria 2a, requiring 2 clinical sx & pos surgical cx)

Resources

- NHSN protocols
- NHSN expertise in the state
  - NH HAI program
  - NHCQF
  - Foundation for Healthy Communities
  - Other ICPs
- NHSN at CDC
  - Email: nhsn@cdc.gov
- Case study webinars for SSI, CAUTI, CLABSI
- Other states (TN checklists)
  - http://health.state.tn.us/ceds/hai

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