Improving Contagious Disease Reporting in a Medical Examiner's Office

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Influenza Pandemic of 2009

- In the 2009-10 season, there were 149 deaths from influenza in Los Angeles County.
- The Medical Examiner's Office reported one. The ME handles 30% of deaths in the County.
- Why so few?

Reasons for Limited Reporting

- Physicians may not be aware of reporting requirement.
- ME staff do not recognize signs of possible influenza death.
- ME staff recognize signs of influenza but do not take appropriate specimens.
- Influenza is diagnosed but not reported.

Ways to Increase Reporting

- Prospective increase—find more reportable disease in future cases
- Retrospective increase—find reportable disease that was not identified originally

Physician Education

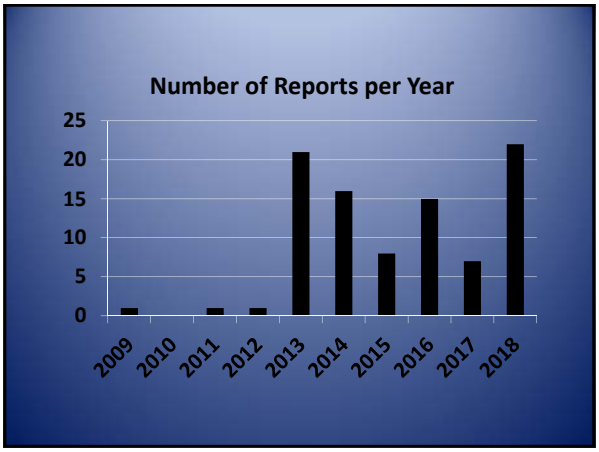
- List of reportable diseases distributed to medical examiners
- Public Health physicians gave a conference on reporting contagious disease
- The Medical Examiner published a notice in the local pathology newsletter about the need to complete cultures in deceased patients

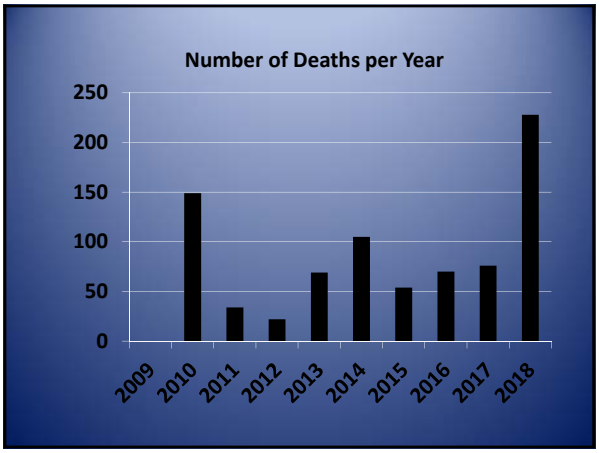
Rapid Reporting

- Information reported to the Medical Examiner is transmitted daily to Public Health.
- Public Health computer searches for terms such as “flu” and “cough”, then flags those cases for manual review.
- If appropriate, public health nurse calls the ME and requests cultures.

Single Point of Contact

- All culture results come to a single individual, who reports any result required.
- In some cases (for example, rubeola), telephone reporting is required.





Retrospectively Identified Case Circumstances

- A 35-year-old woman delivered a normal baby, then expired at home four days later.
- She was found in a secure residence by her boyfriend.
- Decedent resides at the residence with her children.
- It was single story, family style residence.

Circumstances

- The father of the children (boyfriend) does not always stay at the residence.
- The decedent did not use tobacco. She used alcohol socially and also used marijuana.
- There was no history of MI, CVA, or seizures.
- Boyfriend stated that since giving birth, when it was cool outside the decedent would be very warm, and when it was warm she would feel very cold.

Coroner Investigator Scene Investigation

The ambient temperature – unregulated was 87.0 degrees at 1700 hours. The core body (liver) temperature was 90.9 degrees F at 1705 hours, nearly 6 hours after being found. Livor mortis blanched to medium pressure and was consistent with the position found. Rigor mortis was 2+ throughout.

Autopsy Findings

- Well-built and well nourished adult Black female .
- No evidence of trauma found at autopsy.
- The uterus had a post-gravid appearance with an expected enlarged, swollen congested appearance. The uterine cavity was empty and free of foreign material.
- Heart weighed 260 grams and showed no coronary atherosclerosis. Spleen (300 grams) and lungs were congested.
- Toxicology studies showed hydrocodone, ibuprofen and acetaminophen.
- The cause and manner of death were opined as undetermined.

Retrospective Peer Review

- At peer review, additional sections of uterus were taken and special stains were ordered, as cervix showed inflammation.
- Additional histopathology exam showed severe acute inflammation of cervix and myometrium, and endo-cervical necrosis with Gram-positive cocci in chains in vessels and infiltrating tissue.
- There were similar findings on Gram stain of liver, lung, pancreas and heart.
- Medical records were ordered.

Retrospective Medical Record Review

- The decedent delivered a male fetus on 6-14-15 at 1434 hours by manually assisted vaginal delivery. Her admission WBC count was 8800 (74.6% neutrophils).
- The placenta was delivered at 1436 hours.
- Apgar scores were 9 at 1 minute and 9 at 5 minutes. The weight of the baby was 3205 gm, length 49.5 cm.

Retrospective Medical Record review

- The night after delivery her temperature was 103° F and she had chills and abdominal pain. She was treated with acetaminophen and discharged the next day.
- Her WBC count that morning was 18800 (90.8% neutrophils)
- Records reviewed show no cultures were done and no antimicrobial therapy was given. Per the pathology department, no placenta pathology report was available

Consultation

- In view of the autopsy findings and no culture being done at the hospital CDC was consulted through the local Health Department.
- The consultation included:
  - Medical records
  - Autopsy report
  - Formalin-fixed tissue
  - Digital images

  NOTE: Group A Streptococcus (Streptococcus pyogenes) confirmed by immunohistochemical stains at CDC

Case review/Conclusion

Following retrospective case review/CDC -IHC result, cause of death was amended

- Group A streptococcus (Streptococcus pyogenes) sepsis
- due to Postpartum uterine infection

Manner of death : Natural

Concern: Lack of therapy for probable sepsis at the hospital and not sending the placenta for pathological exam.

This was a possible preventable death.

Take Home Messages

- Look at the whole case file when reviewing cases.
- Order medical records as warranted in hospitalized cases.
- Know what cases need to be reported to public health/Medical Board.
- Value of a thorough scene investigation.
- In this case it was very useful including getting a core body temperature (liver temperature).
- Note: Reporting the treating OB/Gyn to the Medical Board was considered but not done due to delay in diagnosis/lack of placental pathology report.