

QUALITY IN ANATOMIC PEDIATRIC PATHOLOGY

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QUALITY IN ANATOMIC PATHOLOGY

WHAT IS QUALITY ?

HOW CAN WE BECOME BETTER?

SURGICAL VS AUTOPSY

PROGRAMS

QUESTIONS

INTEGRATION INTO HOSPITAL SYSTEM

MANY FACES OF QUALITY

- Correct Diagnosis
- Useful Diagnosis
- Useful Consultation
- Customer Service
- Cost Effectiveness

DEFINITIONS

- **QUALITY CONTROL:** process control, e.g. special stain control, temperature monitoring of freezer or water baths
- **QUALITY ASSURANCE:** insure that the entire system has quality that you want, e.g. review of surgical cases for correctness
- **QUALITY IMPROVEMENT:** get better, e.g. did not include prognostic information in 50 % of tumor cases--develop program

to include in all

PATHOLOGIST EVALUATES OTHERS

- Histology
- Special Stains
- EM Preparation
- Secretarial Transcription
- OR Specimen Submission
- Clinical Information Submitted

SURGICAL PATHOLOGY ERRORS-- EXAMPLES

- **DIAGNOSIS**
 - Misinterpretations
 - missing key factors
 - wrong diagnosis
 - sampling poorly
 - omitting additional testing
 - not considering clinical
- **REPORTING**
 - Typographical
 - wrong dimensions
 - miscoding
 - comments (interpretations) hidden

FREQUENCY OF ERRORS

- 7-8% of cases
- 2-19% corrected diagnoses

- 2-3% minor errors
- 0.25-4% significant errors
- 1.3-11% frozen sections
- *Clinics Lab Med. 1999;19:745*

AUDITS

- **Retrospective**
 - Daily sample
 - Daily all
 - Weekly Conference
 - Review of Previous Material
- **Prospective**
 - Cancer cases
 - Intradepartmental consultation
 - Extra departmental consultation
 - Tumor committee
- **Conference**
 - Given by second pathologist
 - Clinical audit
- **Bench Marking with Others**

Blinded Review

- 592 biopsies reviewed, adult setting
- agreement in 96 % of cases
- review missed 1 % of lesions
- review identified only 3 cases not seen originally
- to pick up one missed abnormality 99.9 % of the time;
review 1400 cases
- *Arch Pathol Lab Med 2002;126: 961*

SECOND OPINIONS

- Studies show effectiveness (prostate, breast)

- Needed for research
- Prospective vs. Retrospective
- Time and money to achieve

SERVICE AUDITS

- Turn around time
- Late Reports
- Corrected Reports
- No Report
- Addendum
- Incomplete Reports
- Utilization Auxiliary Tests

SURVEY OF PEDIATRIC LABS

- 29 Pediatric Pathology Labs surveyed in 1992
- Review of autopsy cases
 - 7--no review
 - 3--10 % of cases
 - 5--20-50 %
 - 9--75-100 %
- *Hamoudi et al. Arch Pathol Lab Med 1994;118:165*

SURVEY OF PEDIATRIC LABS

- 22/29 had a QI plan, 0.5 to 30 pages
- 20/27 subscribed to SPP slide survey
- most felt their programs worked
- VOLUME: rate of autopsies, lost specimens, inadequate requisitions
- TECHNICAL: EM tissue samples, controls for histology, report integrity, review of slides, referrals to tissue committee
- CLINICAL: tissue committee, clinical conferences, CME, review of problem cases, correlation with other tests
- INDICATORS OF TAT: autopsy, surgical pathology by most

Survey of General Pathology Labs

- 580 institutions reviewed by CAP
- median number of indicators was 5
- most reviewed monthly
- most used (> 75 % of labs):
 - specimen adequacy
 - compare frozen and permanent sections
 - compare needle biopsy to resection
 - correlation to external consultation
- *Am J Clin Path* 1994;102: 567.

Amended Reports in Anatomic Practice Studied by CAP

- 3147 amended reports from 1667547 reports studied from 359 labs
- 1.9 per 1000 cases mean
- Error detection via:
 - clinician requested review 20 %
 - extra-departmental review 18 %
 - review of text in report 10 %
 - more clinical info: 9 %
 - conference 3.5 %
- *Arch Path Lab Med* 1998: 122: 303

REASONS FOR AMENDED REPORTS What we do in Seattle-Surgicals

- Timeliness
- Frozen concordance
- Corrected reports
- Consults: agree/disagree
- Clinical Conference Issues
- Correlation anatomic/flow/cytogenetics
- Flow issues
- Autopsy QA issues

TISSUE COMMITTEE

- Medical Staff – Hospital Bylaws
- Insures Tissue Submitted
- Correlates pathological findings to clinical.
Example: appendicitis
- MULTI-DISCIPLINARY

COST EFFECTIVENESS

- How many special stains
- Repeat micro lab work
- Acetylcholinesterase
- EM of muscle biopsy
- Minimally invasive biopsy (aspirate)

DETECTION OF METASTATIC NEUROBLASTOMA

- **Radiological**
 - Plain radiograph
 - Bone scan
 - CT scan
- **Pathology**
 - Aspirate
 - Biopsy – bilateral--with 5 levels
 - Immunostaining
 - Flow cytometry

COLLEGE OF AMERICAN PATHOLOGISTS

- **Laboratory Accreditation Process**
 - Peer Inspection
 - Self Inspection

- Clear Requirements
- **Items for inspection broad**
- safety, external proficiency program
- controls
- turn around times
- report formats

CAP--examples

- Turn around time: autopsy (60 days), surgical (2 days) frozens (20 minutes)
- document consultations
- frozen discrepancies
- Exposure levels of formaldehyde & xylene
- safety from infectious agents
- retention of records, slides, blocks, gross tissue, reports, procedure manuals

CAP--examples

- Peer education program
- Is there a quality improvement program
- Does the program demonstrate improvement
- Is previous material reviewed
- Guidelines to examine specimens and report via accepted national guidelines
- Identification maintained throughout
- Autopsies used in hospital QA program

ISO 9001 ELEMENTS

- Management responsibility
- Document control
- Customer supplied controls
- Product identification
- Control of inspection and testing
- Handling, storage, packaging, delivery
- control quality records
- inspection and testing

- preventive action
- nonconforming products
- Quality system
- contract review
- design control
- document control
- purchasing
- process control
- quality audits
- training
- servicing
- statistics
- inspection status

To achieve quality takes time, money, organization, and the will.

All industrial and medical quality experts believe and can show that quality is cost-effective.

AUTOPSY--USES IN THE HOSPITAL

- Used in hospital--clinical pathologic disagreements
- Feedback to clinical committees to review
- Prompt review of specific practices
- Forum to compare to others

OUR AUTOPSY QA

- Peer evaluates completed case before signout
- Mechanics of case (completeness)
- Thought process
- Examples: pictures, enough microscopic, descriptions clear and complete, weights analyzed, timeliness, special studies, clinical complete but short, clinical problems to be addressed, coding correct, major discrepancies addressed, cause of death, clinical

questions answered, neuropathology included.

ADVANTAGES OF HAVING A GOOD QUALITY IMPROVEMENT PROGRAM

- You can prove to others that you know your own quality and error rates.
- If you come under criticism, you have data rather than impressions to counter.
- Your clinicians and administrators will be impressed.
- Your patients will benefit.

INTEGRATION INTO HOSPITAL QI

- Laboratorians know how to monitor and improve quality.--it is part of our core competency.
- We are central to all hospital activities so can observe problems (poor surgeons, high infections, iatrogenic injury, new diseases).
- Quality activities are increasingly mandated in hospitals--it is best to embrace what otherwise will be forced on us.
- Autopsies are the center for patient focused review

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