Any aspect of the process of specimen acceptance, processing and transport of a diagnosis is ‘liable’ to go awry.

ACCOUNTABILITY, RESPONSIBILITY & OVERCONCERN FOR LEGAL CONSEQUENCES
Incompetence and Negligence

- Gross negligence, simple negligence
- “Malpractice”- unique standard in each case with jury following the instructions of the judge based on the testimony of expert witnesses.
- G.G. Davis and M.A. Scott
Pillars of Malpractice

- **Duty** = Obligation to treat for a pathologist is provision of guidance to treating physician(s)
- **Dereliction** - standard of care
- **Damage** - more than ‘worse’
- **Cause** - substantial factor
Pathologist frontage in breast disease is wrongful diagnosis

- Usually **overdiagnosis** of malignancy
- Considering the magnitude of treatment consequences, old practice of ‘erring on side of malignancy to benefit patient’ is long irrelevant.
- **Underdiagnosis** of malignancy, also often includes lack of clinical……
Diagnostic Statement

- **Clarity and Certainty**
  - if certain, so state
  - if uncertain, relay that with certainty

- 1st degree Dx="acute appendicitis"

- 2nd degree Dx= c/w…

- 3rd degree Dx=inflammation, see comment
Diagnostic Statement

- Clarity and Certainty
  - If certain, so state
  - If uncertain, relay that with certainty

- 1st degree Dx = DCIS, INT. GRADE
- 2nd degree Dx = c/w...DCIS, NEED..
- 3rd degree Dx = ATYPICAL CELLS, see comment
“If you as a pathologist discover that you have made an error of such magnitude, then you need to immediately make it your business to start getting the truth out.”

This will involve contact with the clinician and often the patient.

Delay while you seek your own legal counsel may be inadvisable. And any actions taken will be part of the overall record.
Real Cases

- **“Invasive ductal carcinoma”**
- Followed by mastx., 5 courses of ChemRx and first review of original exc. biopsy at time of liver scan
- Dx= sclerosed, adenotic papilloma of 1.1cm, completely excised at first.
- Surgeon and Med. Oncologist not sued because diagnosis is clear, even though other information might have been sought.
Special Cases - Breast FNA

- You perform the FNA and find out that a pneumothorax has ensued.
- You ‘over’ or underdiagnose the FNA.
- What does ‘malignant cells present’ really mean?
- NCI Consensus Conference in 1996 supports a likelihood approach to reporting. Similar to Papanicolaou.
Reporting of Breast FNA

- The uniform approach to breast fine-needle aspiration biopsy. NIH Consensus Development Conference

- The initial version of this paper was published in Diagnostic Cytopathology, Vol. 16, No. 4, 1997

Real Case(s) FNA, Breast

- Location, location, location
- ‘Lump’, Cyst, solid, old, young
- Clinical (Mis) information
- “the cells looked so malignant”
- Fibroadenoma, apocrine and regenerative/inflammatory change in cyst and other
Real Cases, FNA Breast

- Path requisition form = breast lump
- Clinical notes - cyst fluid aspirated
- Dx: few malignant cells present c/w carcinoma
- Outcome: bilateral mastectomy in young woman with uncertain positive family history and fear.
Lowell Rogers, 1976

“No matter how carefully worded and constructed the diagnosis may be, there is a clinician somewhere anxious to misinterpret it”

This emphasizes the importance of the insight of the receptor(s) of our diagnoses, and the luxury of knowing their strengths and weaknesses.
CAP lab inspection long involved in liability and clear responsibility of reporting

- Intraoperative diagnostic reports must be in writing and signed by the pathologist who made the diagnosis.
Liability

- Wrongful diagnosis - leading to harm
- This is overdiagnosis of cancer and implicated the clinician in ‘over treatment, but…..usually the pathologist goes to see the judge and jury alone
- Even, if the clinician has been a party to encouraging a Dx. Of Cancer
Special Responsibility of Consultants

- This should take into account prior diagnostic opinions - and be clear
- This may involve specific discussions of prior opinions or not
Hypersecretory changes in a single Lobular Unit
Clustered atypical apocrine cytology changes
Reactive nuclear changes atop infarcted Papilloma
Most common Diagnostic Mistakes in Breast Pathology

- Few Atypical cells by cytology called ‘cancer’ without supporting features of pattern and extent (FNA or Biopsy)
- Unusual and unfamiliar distorted stroma and glands called infiltrating CA = Sclerosing adenosis less common than sclerosed/adenotic papillomas
Real Case

- Diagnosis of DCIS leads to Mastectomy and later review at major Cancer Center
- 2nd Diagnosis = B9
- Suit filed, and outcome is likely at pretrial settlement
- Because DCIS is intermediate grade, Apocrine type, a diagnosis clearly controversial from available literature
“False Negative” FNA-Breast

- Not usually a serious breach because of the pervasive understanding of the concept of the “Triple Test”

Answer: solitary group of “odd” cells in B9 bx. With Proliferative…
CONCLUSION

Cannot practice diagnostic Pathology of Breast Disease without understanding what is beyond the cells encased in glass.
Common Medicolegal Situations in Hematopathology
And How to Lessen Your Risk

Peter M. Banks, MD
Director of Hematopathology
Carolinas Medical Center, Charlotte, NC
Adjunct Professor of Pathology, UNC-Chapel Hill
I. Introduction – being named as a defendant in a malpractice lawsuit is becoming a more frequent problem for pathologists than in the past. This reflects the growing importance of our specialty in the clinical management of patients with serious disorders, such as cancer, and, correspondingly, representations by patients and lawyers of our accountability for any damages resulting from diagnostic errors. On the basis of my own observations from legal cases in which I have been involved in the role of expert witness over the past 25 years the following admonitions are offered in regard to the subspecialty of hematopathology.

II. Factors that contribute to the development of lawsuits in hematopathology:

A. The increasing role for pathology in the management of disease (now not only diagnosis but prognostic and therapeutic markers)

B. Attempting to make definitive diagnoses with ever smaller samples

C. Weakening communication and relationship with clinicians

D. Pressures (financial) to sign out ever more cases

III. Types of cases in hematopathology leading to lawsuits:

A. Failure to diagnose Hodgkin lymphoma

B. Mistaking an inflammatory process for lymphoma/leukemia

C. Failure to correctly classify a lymphoma

IV. Common pitfalls in the practice of hematopathology cases leading to lawsuits:

A. Inadequate or inaccurate clinical information for case interpretation

B. Biopsy sampling inadequate or nonrepresentative

C. Diagnostic report abrupt or incomplete

D. Simplistic interpretation of ancillary studies

E. Resistance in sending case out for review

F. Seeds of doubt planted in patient at referral center
V. Examples:

A. Elderly woman with constitutional symptoms for more than a year, a needle biopsy of liver is diagnosed as “inconclusive”, and at autopsy 3 months later advanced stage Hodgkin lymphoma is discovered. Expert witness for plaintiff states that diagnosis should have been “suggestive of Hodgkin’s”.

B. 60-year-old man with progressing sinus problems undergoes biopsy, clinician expresses concerns regarding fungal infection. Fungal organisms and necrosis lead to diagnosis of fungal infection. Months later case is reviewed at another institution where diagnosis of nasal type NK/T-cell lymphoma is made. Patient survives one year and succumbs to systemic lymphoma.

C. D&C from a 38-year-old woman is interpreted as high-grade lymphoma. One year later, six months after completing intensive chemotherapy, the patient is evaluated at a referral center where she is told that review of the pathology reveals that she never had lymphoma, only an inflammatory process. The patient sues the clinician and pathologist for expenses, suffering, loss of consort, etc.

VI. How best to win the suit:

A. As soon as you learn of the suit gather all data, pathology materials relating to case, etc. and privately, thoroughly review everything and take copious notes that are stored in a secure place.

B. Discuss the case only with your lawyers.

C. Earlier than later assist your lawyers in finding respected expert witness(es) to represent your side of the case.

D. Keep your lawyers on the case; hold them to their deadlines as the case moves along (lawyers actually are human too!).
Common Medicolegal Situations in Hematopathology
And How to Lessen Your Risk
Peter M. Banks, MD

VII. TAKE HOME MESSAGES:

A. Get clinical information, especially for small biopsies with “atypical findings”.

B. Do not cut corners in generating the diagnostic report.

C. Freely use descriptors such as “complex”, “difficult”, “challenging”, or “unusual” in reports.

D. Do not imply that you resent or are uninterested in others’ reviews of your cases.

E. Never conceal, destroy or modify evidence.

VIII. Reference:
Common Medicolegal Situations: Misdiagnosis of Melanoma

David B. Troxel, MD

- Medical Director, The Doctors Company, Napa, California
- Clinical Professor Emeritus, University of California at Berkeley
- Past President, The American Board of Pathology

© 2005 The Doctors Company. © 2005 David B. Troxel, MD. Materials are used by the CAP with the permission of The Doctors Company and David B. Troxel, MD.
Diagnoses Are Usually Predictive of Patient Outcomes
BUT - Sometimes Unanticipated Events Occur
Pathology Claims Frequency

- **Frequency** - the number of claims reported each year per 100 insured physicians

- Pathologists have **Low Frequency**

- 8.3% per year

- 1 claim every 12 yrs
Frequency by Specialty
1995-2003

Specialty

Frequency

NSU01
PLA01
ORT01
GES01
OBG01
FGP02
INT01
ANE01
PAT01
Pathology Claims Severity

- Pathology claims have High Severity (second only to neurosurgery):
  - Severity = average indemnity & associated expense per closed paid claim: $453,200
  - High due to failure to diagnose cancer - with delay in dx and/or inappropriate treatment
  - Melanoma Claim Severity: $757,200
Of 490 Surgical Pathology Claims from 1995 through 2003

• 14% (67 claims) involved dx of melanoma – today, the most common reason for suing a pathologist

• 87% of these were false negatives

• 1/3 were misdx as Spitz nevus; “dysplastic” nevus; spindle cell SCC; or AFX - or were unrecognized desmoplastic melanomas

ALISTAIR J. COCHRAN, MD
UCLA School of Medicine

SCOTT BINDER, MD
UCLA School of Medicine

PHILIP LeBOIT, MD
UCSF School of Medicine

CLIFTON WHITE, MD
Oregon Health Sciences Univ.
Recurrent Problems

Identified:

1.) **Nodular melanoma** - misdiagnosed as benign nevus without explanation:

- Emphasize diagnostic criteria for melanoma in residency training and CME programs
- “Slide Mills” resulting from steeply discounted managed care contracts with mandated referrals – too many slides, too fast?
- Poor inter-observer reproducibility in diagnosis of melanoma
Inter-observer Reproducibility in Diagnosis of Melanoma

• 11 experts reviewing 37 “classic” melanocytic tumors agreed unanimously on benign vs malignant on only 35% of cases.

• 6 university pathologists reviewed 94 melanoma slides: agreement was good for Breslow thickness, moderate for growth phase, and fair for Clark level.
1.) Nodular Melanoma – misdiagnosed as benign without explanation

- Pathologists should focus on:
  1. Thorough sampling of a lesion
  2. Multiple levels through the block
  3. Insisting on good histologic sections
  4. No frozen sections on melanocytic lesions
1.) **Nodular Melanoma** – misdiagnosed as benign without explanation

- **Adequate sampling** is important since diagnostic features may be seen in only 1 or 2 sections taken from one of multiple levels
- **Serially section** the entire biopsy and examine multiple sections from each of three levels
- **Save the intervening sections** - they can be stained if needed or used for IPOX
Recurrent Problems Identified:

2.) Nodular melanoma with the low power architecture of a nevus, but the cytology of melanoma (Nevoid Melanoma) - suggesting that a “hasty” diagnosis was made under low power
2.) Nevoid Melanoma

- Routinely examine all melanocytic lesions under high power – even if they appear to be typical nevi under low power

- Look for mitoses (frequent and/or deep), cytologic atypia, coalescence of nests, melanin in deep tumor cells, and lymphocytic infiltrates

- Low power symmetry can be misleading
Recurrent Problems Identified:

3.) **Superficial spreading melanoma misinterpreted as a chronically inflamed nevus** –

- Melanocytic lesions that contain lymphocytes must be carefully examined for other features of melanoma
- - and completely excised
Case 1

A punch biopsy was diagnosed “chronically inflamed melanocytic nevus”. 2 years later the patient developed metastatic melanoma.

Review showed a melanocytic lesion obscured by lymphocytes with few junctional nests and no Pagetoid melanocytosis. Atypical melanocytes were present.

Definitive dx of melanoma would be difficult. Excisional bx or expert consultation should have been obtained.
3.) Superficial spreading melanoma misdiagnosed as chronically inflamed nevus

“Lymphocytes Are Better Than Pathologists In Recognizing Melanomas”
Recurrent Problems Identified:

4.) Claims involving partial biopsies (shave or punch biopsies) that –

• inadequately sample the lesion, and –

• result in incomplete excision
4.) **Partial biopsies** (shave or punch biopsies)

Of 23 Melanoma Claims from 1998 - 2001:

- 56% were **shave or punch biopsies** diagnosed as benign nevi
- 27% involved **melanomas recurring locally** and therefore incompletely excised (type of biopsy unknown)
- Only 17% were melanomas adequately excised
4.) Partial biopsies (shave or punch biopsies)

- Despite admonitions to completely excise pigmented lesions, PCP’s and dermatologists continue to perform punch and shave biopsies

- and this practice is increasing under “managed care” driven by productivity standards and cost considerations

- Excisional biopsy is indicated for all melanocytic lesions
4.) **Partial Biopsy** (shave or punch biopsy) **Limitations:**

- Sample non-diagnostic areas of a melanoma - or an associated benign nevus
- Don’t include the deepest portion of the lesion or the radial growth phase
- Unlike excisional biopsy there is a residual lesion that may recur or metastasize
Recurrent Problems Identified:

5.) Melanoma misdiagnosed as *Spitz nevus*

- The diagnosis of Spitz nevus in an adult is a **high risk and low frequency diagnosis** for most pathologists -

- Analogous to soft tissue tumors or bone tumors
Case 2

Biopsy of a non-pigmented nodular lesion in a 31 year old was diagnosed as “atypical Spitz nevus”. One year later it metastasized to a LN.

Review showed a symmetric nodular melanoma, composed of epithelioid melanocytes, with a modest lymphocytic infiltrate and an abnormal mitosis.
5.) Melanoma misdiagnosed as Spitz nevus

- When considering the diagnosis of Spitz nevus in an adult, obtain consultation from an expert
- 3 Rules for seeking expert opinion
- Even experts may disagree on problematic or Atypical Spitzoid Lesions
5.) Melanoma misdiagnosed as **Spitz nevus**

- When this occurs some referral centers perform **sentinel lymph node biopsy**

- In one published report metastatic cells were found in the sentinel lymph node in 5 of 10 such problematic cases
**Recurrent Problems Identified:**

6.) Unrecognized **Desmoplastic Melanoma**

- Over half were shave biopsies - often misdiagnosed as **dermatofibroma**

- Most desmoplastic melanomas are associated with **lentigo maligna** or atypical lentiginous proliferations
Case 3

A 40 year old had a lesion thought to be a BCC. Biopsy was interpreted as “benign nevus with dermal fibrosis”.

One year later an ulcer at the biopsy site was excised and desmoplastic melanoma diagnosed. 6 months later there was lymph node metastasis.
6.) **Desmoplastic Melanoma**

- The appearance is deceptively subtle so routinely look for DM in all biopsies of LM

- **Pigmented actinic keratosis** can be difficult to differentiate from LM

- In the presence of an actinic keratosis, always assess if LM coexists
6.) **Desmoplastic Melanoma**

- If uncertain, ask the clinician to consider LM and do additional sampling if indicated

- **Useful Rule:** Actinic damaged skin + Scar or Desmoplasia = rule out DM

- This requires stains for S100 protein

- HMB45 is not useful
Recurrent Problems Identified:

7.) Melanoma misdiagnosed as “Dysplastic” or “Atypical” nevus involving margins

- Re-excision was requested but not performed - due to miscommunication between the pathologist and the dermatologist
7.) “Dysplastic” or “Atypical” nevus

- Pathologists may use the terms “atypical” or “dysplastic” in a generic sense –

- meaning that disturbing cells or architectural features are present in a lesion which lacks other criteria required for the diagnosis of melanoma
7.) “Dysplastic” or “Atypical” nevus

- Complete excision may be requested -

- but dermatologists may be reluctant to do so, since to them these terms have a specific meaning

- connoting a clinical syndrome or benign clinical entity with characteristic histologic features
7.) “Dysplastic” or “Atypical” nevus

- For lesions with an unpredictable biologic potential in the diagnostic gray area between melanocytic nevus and melanoma, use the term:
  - “Atypical Melanocytic Proliferation” - and request complete excision
- 0.5 cm margin if superficial; 1.0 cm if deep
Recurrent Problems Identified:

8.) **Spindle cell melanoma** misdiagnosed as spindle cell squamous carcinoma. **IPOX stains** were not performed.

- For **amelanotic spindle cell lesions**, stains for S100 protein, MART-1/Melan-A, and CK AE1/AE3 are required to differentiate squamous carcinoma from desmoplastic/spindle cell melanoma and atypical fibroxanthoma.

- **HMB45** is not useful in this differential dx.
SUMMARY

• 14% of all surgical pathology claims involve the misdiagnosis of melanoma

• **Today**, the most common reason for suing a pathologist is a false negative dx of melanoma (87%)

• 1/3 of these claims were melanoma misdx as Spitz nevus; “dysplastic” nevus; spindle cell SCC; or AFX - or were unrecognized desmoplastic melanomas

• Pathologists and CME programs need to focus on this difficult area of diagnosis
Common Medicolegal Situations and How to Avoid Them: 
Genitourinary Pathology

Jonathan I. Epstein, MD
Professor of Pathology, Urology and Oncology
The Reinhard Professor of Urologic Pathology
Director, Surgical Pathology
Common Medicolegal Situations and How to Avoid Them:
Genitourinary Pathology
Jonathan I. Epstein, MD

Introduction

Although I am active in the medicolegal arena, fortunately relatively few cases involve pathology error. Furthermore, those cases that have resulted from pathology error do not always reflect the most common overall errors in pathology practice that I see in my consult material. Nonetheless, these examples of pathology errors that have resulted in medical lawsuits provide not only useful information on specific pathologic issues but also general information for the practice of pathology how to avoid lawsuits.

Common Mistakes in Genitourinary Pathology

Although not the focus of the topic, it may be useful to pathologists as to what are the most common errors that I have seen covering the spectrum of genitourinary pathology in my practice.

Kidney

Within the kidney, one of the more common mistakes I have seen is in the diagnosis of angiomyolipomas which have such prominent adipose component that they are misdiagnosed as well-differentiated liposarcoma. Other angiomyolipomas with a prominent smooth muscle component I have seen misdiagnosed as leiomyosarcoma. In addition, very epithelioid angiomyolipomas with atypia have been misdiagnosed as renal cell carcinoma. Although we receive numerous examples where the differential diagnosis is oncocytoma versus chromophobe renal cell carcinoma, I have not seen mistakes made. This in part, may reflect that even if mistakes are made in this differential diagnosis they do not come to clinical attention. Organ-confined chromophobe renal cell carcinomas, when completely resected, have an almost uniformly favorable prognosis such that if are misdiagnosed as oncocytoma they will rarely result in a lawsuit. Although there have been numerous articles written about the subtyping of renal cell carcinoma, lawsuits relating to this issue are rare in my experience in part because there are no good treatments for any of the types of renal cell carcinoma beyond surgery.

Bladder

In the bladder, the most common mistakes I have seen revolve around the diagnosis of carcinoma in situ. It is typically either underdiagnosed or overdiagnosed, as will be discussed later when discussing lawsuits relating to this issue. Other frequent errors that I see in my consult service relate to the grading of urothelial carcinomas, although with the exception noted later in this handout, in general they would rarely result in a medicolegal action. Other common errors dealing with bladder pathology that do not seem to result in lawsuits include the overdiagnosis of carcinoma when, in fact, the lesion represents an inverted papilloma. I have seen numerous examples of polypoid cystitis, which have been misdiagnosed as papillary urothelial carcinoma. In part, these cases may not have resulted in a lawsuit because clinicians are extremely adept at recognizing inflammatory lesions of the bladder as opposed to neoplastic lesions based on their cystoscopic appearance. Consequently, no subsequent harm is brought to the patient when a pathologist erroneously diagnosis papillary urothelial carcinoma because the
urologist asks for a second opinion when this diagnosis contradicts the cystoscopic impression of an inflammatory process. I have seen several cases involving the diagnosis of invasive carcinoma and its relationship to invading the muscularis propria, one of which resulted in a lawsuit and will be discussed subsequently. Although I have not seen a malpractice lawsuit result from this scenario, I have seen several examples of poorly differentiated prostate adenocarcinoma involving the bladder which were diagnosed erroneously as urothelial carcinoma. Because many of these patients had a history of adenocarcinoma of the prostate, these cases were sent for consultation where, upon additional workup I was able to diagnose infiltrating poorly differentiated adenocarcinoma of the prostate. Given the marked differences in treatment between adenocarcinoma of the prostate and urothelial carcinoma, I anticipate that there are several malpractice lawsuits revolving around this issue that I have not had the opportunity to be involved with. Another situation where I have seen pathology error that had significant implications in terms of patient treatment that I have not seen a lawsuit relating to is the misdiagnosis of small cell carcinoma of the bladder either as a sole component or admixed with urothelial carcinoma, where the entire lesion was erroneously diagnosed as high grade urothelial carcinoma. Although one of the most common cases sent in for consultation is nephrogenic adenoma, I am not aware of a lawsuit relating to the misdiagnosis of nephrogenic adenoma as carcinoma. Similarly, I have seen numerous examples of inflammatory myofibroblastic tumor, some of which were diagnosed as sarcoma, yet I am not aware of any lawsuits relating to these cases; usually pathologists recognize the unusual nature of the lesion and send it for consultation before patient harm can ensue. Finally, I have seen a few cases of florid colonic metaplasia (cystitis glandularis intestinal type) and endocervicosis which were misdiagnosed as adenocarcinoma, resulting in cystectomy. Although these cases resulted in malpractice action, I was not personally involved with them. The other common lesion sent in for consultation dealing with urothelial lesions is that of nested urothelial carcinoma versus von Brunn’s nests. Although this is one of the more difficult diagnoses in urological pathology, I am not aware of any malpractice cases relating to this issue.

Testis

There are relatively few lawsuits in my experience relating to testicular pathology. In part, the subclassification of testicular tumors beyond seminoma versus non-seminoma has relatively little implication for therapy as the treatment for non-seminomatous germ cell tumors is, in large part, based on clinical findings. Most lawsuits I have dealt with relating to testicular pathology relate to testicular torsion and the delay in its diagnosis. The pathologist has relatively little role in these cases from a diagnostic standpoint. In terms of the consults I receive relating to testicular specimens, these tend to be varied in nature where the pathologist has a question as to the lesion’s diagnosis, yet there is no consistent error in diagnosis in my experience. The most common error I see in my practice is the overdiagnosis of a small focus of choriocarcinoma in a mixed germ cell tumor when, in fact, there are only scattered syncytiotrophoblastic giant cells present. This error would not likely result in a medical malpractice lawsuit as treatment and prognosis of non-seminomatous germ cell tumors is based on clinical findings, including the level of elevation of serum ACG level rather than the histological presence or absence of choriocarcinoma.
Common Medicolegal Situations and How to Avoid Them:
Genitourinary Pathology
Jonathan I. Epstein, MD

Penis

The most common lesions sent for consultation relating to the penis are in verrucous lesions and distinguishing verrucous hyperplasia versus verrucous carcinoma versus squamous carcinoma, either alone or arising in verrucous carcinoma. Nonetheless, I am not aware of lawsuits relating to this issue.

Prostate

The most common benign mimicker of prostate cancer that has resulted in malpractice is nonspecific granulomatous prostatitis, which is discussed subsequently. In contrast, the most common benign mimicker of prostate cancer sent in for consultation is partial atrophy, although I have not been personally involved in a case of partial atrophy overdiagnosed as cancer resulting in malpractice. Other mimickers of prostate cancer that I have seen misdiagnosed yet not result in a lawsuit include the overdiagnosis of urothelial carcinoma on needle biopsy where the lesion represented a prostatic infarct with reactive urothelial/squamous metaplasia. Although the distinction of radiated benign prostate tissue versus carcinoma is one that is a frequent source of consultation, I have not seen pathology error relating to this differential resulting malpractice. In part, this may result from pathologists recognizing their difficulty with this issue and sending it off for consultation and in part may reflect that often, even if carcinoma is diagnosed post-radiation, nothing further in terms of surgery is performed. Additional mimickers of prostate cancer that I have had experience with resulting in a medical malpractice lawsuit are discussed subsequently.

I am aware of multiple cases of small foci of adenocarcinoma of the prostate on needle biopsy that have been underdiagnosed. Whereas some of these have gone on to lawsuit, others have not, in part because of the relatively indolent growth of prostate cancer such that, in some cases, a couple of years’ delay in diagnosis does not result in any patient harm.

I have not personally been involved in a malpractice case where the pathologist has been sued as a result of grading error. However, I am aware of a case where a pathologist diagnosed a needle biopsy as Gleason score 3+3=6 and the patient was put on expectant (watchful waiting) management. The patient subsequently progressed several years later and upon review of the initial needle biopsy was found to have Gleason score 3+4=7 prostate cancer. The pathologist was sued for undergrading the needle biopsy since recognition of Gleason score 3+4=7 cancer in the initial diagnosis would have resulted in definitive therapy rather than expectant management. However, given the subjectivity involved in grading, unless the grading error was flagrant, it would be difficult in my opinion to have a successful lawsuit relating to this issue.
Pathology Error Resulting in the Clinician Being Sued

In some cases, pathology error can result in lawsuits against other healthcare providers. Although in these cases it is unlikely for the pathologist to be sued, pathologists can nonetheless be drawn into legal proceedings. Furthermore, in these cases the pathologist would have to live with the knowledge that the error caused other physicians to endure the nightmare of a lawsuit.

I have seen several cases where there was no residual tumor in a radical resection, which is termed “stage p0”. These have included radical prostatectomy specimens, radical cystoprostatectomy specimens, and nephrectomy specimens. In these cases, clinicians have been sued as “there must have been a mistake” if it was major surgery was performed and no cancer was present. Although in some of these cases, there indeed was no residual tumor which is a recognized phenomenon following initial resection or even biopsy, in some cases there was residual cancer yet the pathologist did not identify it. First, pathologists should completely and thoroughly sample resection specimens to rule out residual tumor. In bladder specimens, this includes embedding any mucosal abnormality such as subtle reddened velvety mucosa which may reflect CIS, in addition to the entire biopsy site. When a radical prostatectomy specimen shows no residual tumor first the pathologist should review the original needle biopsy to ensure that the diagnosis of carcinoma is accurate. Subsequently, the pathologist should totally embed the prostate if it has not already been done. Situations where the location of the cancer on needle biopsy is known (i.e. left apex or left) the pathologist should cut down times three the posterior sections in this region. If there is no cancer identified then these blocks should be flipped and an additional three levels should be performed. If after all of these procedures no cancer is found, the radical prostatectomy specimen should be signed out as expediently as possible. In cases where we do not find cancer in the radical prostatectomy or maybe find only limited foci, we add the following in a comment at the end of the report to explain to the clinician and patient that this scenario does not necessarily reflect pathology error. The note is as follows: “In the era of PSA screening, we have seen an increased number of radical prostatectomies with minute prostate cancers that are difficult to identify. More rarely, we have seen radical prostatectomies without identifiable cancer (Am J Surg Pathol, 1997;21:174-8). We have demonstrated using molecular satellite marker analysis that in almost all cases of “vanishing cancer” in radical prostatectomy specimens it reflects a chance sampling of a minute cancer and not a switch in specimens (Am J Surg Pathol 29:467-473, 2005).” Pathologists should be considerate of other physicians involved in a case and think of the consequences of their report. If possible, pathologists should add a comment that could potentially avoid a lawsuit as long as that statement is correct.

The most common situation where I have been involved in medical malpractice cases is to defend cases brought against clinicians as the result of mishandling of serum PSA values. This includes cases where the PSA test was never ordered, ordered but the laboratory did not run the test, the lab ran the test but the PSA data was lost by the clinician, or the clinician did not act appropriately on the elevated PSA value. Typically as a result of mishandling of the PSA test, there was a delay of one to one-and-a-half years following which the patient presented with advanced prostate cancer. The key issue is whether the diagnosis made 1-1.5 years earlier made a difference and, if not, then the clinician is not liable. A large part of the case revolves around the grade found on the eventually diagnosed cancer. If the grade is Gleason score 8-10, the patient would unlikely be cured even if it was diagnosed earlier. As high grade prostate cancers
are often cytologically bland, there is a tendency for pathologists to undergrade prostate cancer. Undergrading cancers falsely raises the expectations of the patient and eventually the plaintiff’s attorney that the cancer would have been curable if it had been diagnosed earlier. An accurate assignment of high grade cancer by the pathologist on the initial specimen could have avoided the lawsuit.

The other case where I have seen pathologist error contribute to a clinician being sued relates to the use of the term “acute prostatitis” on a TURP specimen. In the case I was involved with the patient developed strictures and other complications following TURP necessitating a radical cystoprostatectomy. The urologist was sued for doing the TURP, as it is typically contraindicated in the case of acute prostatitis because of the risk of sepsis. The pathologist should be attuned to the careful use of terminology. Seemingly inconsequential differences in verbiage can make crucial differences in terms of patient treatment.

Pathology Error Resulting in Pathologists Being Sued

Kidney

A prominent pathologist from a well known academic center was sued as the result of missing vascular invasion in a clear cell renal cell carcinoma at nephrectomy. The suit revolved around an alleged denying of the patient a potential benefit in an experimental protocol for immunotherapy. The gross specimen was handled by a medical student. In the case, no adrenal gland was found despite the surgeon claiming that it had been removed. In addition, there were other, less serious inconsistencies in the gross description. Although this case is relatively weak in that it is hard to claim harm due to the pathology error, it demonstrates that you never know when errors may lead to a lawsuit and one must take care with all specimens. In addition, it demonstrates the importance of paying attention to grossing of the specimen and the gross pathology report. Even though errors in the gross handling of the specimen and in the gross report do not necessarily form the basis of the lawsuit, they can end up making a pathologist look careless and incompetent and contribute to a successful lawsuit. Furthermore, this case demonstrates that anyone can get sued regardless of their reputation or institution.

The other kidney tumor that I am familiar with resulting in a medical malpractice lawsuit was that of a case diagnosed as poorly differentiated renal cell carcinoma when the correct diagnosis was poorly differentiated urothelial carcinoma. Given that there are no good treatments for renal cell carcinoma yet there are effective chemotherapy treatments for urothelial carcinoma, there was an alleged delay in appropriate treatment. This case illustrates the importance in accurately diagnosing undifferentiated carcinomas. One cannot assume they are necessarily the most common neoplasm to be found in that organ. For example, when a patient presents with a poorly differentiated tumor in the kidney, one thinks of renal cell carcinoma, but as this case illustrates that may not be the correct diagnosis. An even more common situation that I have encountered, although I have not been involved in a lawsuit resulting from this error, is the differential diagnosis relating to poorly differentiated adenocarcinoma of the prostate versus poorly differentiated urothelial carcinoma. Given the marked differences in treatment between these two entities, it is critical to attempt to diagnose them accurately using immunohistochemical stains. The battery of stains that I use in this differential include high molecular weight cytokeratin, thromobomodulin, and PSA. Although I often run cytokeratins 7

© 2005 Jonathan I. Epstein, MD. Materials are used by the CAP with the permission of the faculty.
Common Medicolegal Situations and How to Avoid Them:
Genitourinary Pathology
Jonathan I. Epstein, MD

& 20, these stains are usually non-contributory. The exception is a tumor that is CK7 negative which would be highly unlikely to be urothelial carcinoma.

Bladder, Ureter, Renal Pelvis

Probably the most important diagnosis in urothelial neoplasms is the diagnosis of muscularis propria (detrusor muscle) invasion as this diagnosis typically results in radical cystectomy. Tumors can invade the lamina propria which contains with the smooth muscle bundles of the muscularis mucosae where in some cases it may be difficult to distinguish them from muscularis propria. In addition, extensive high grade infiltrating urothelial carcinoma can invade the muscularis propria and destroy the muscle bundles to an extent where it may be difficult to recognize their presence. A malpractice case I was involved with was diagnosed as “malignant consistent with papillary TCC grade 2/4. Extension into lamina propria with invasion of smooth muscle.” The microscopic description stated “Groups of malignant transitional epithelial cells are also seen extending into lamina propria and indeed are even seen to be surrounding bundles of smooth muscle fibers.” It is critical when signing out a case of urothelial carcinoma which invades the muscularis propria to make the diagnosis as clear as possible. In my reports, I used the term “muscularis propria (detrusor muscle) invasion” so that there is no potential for miscommunication with the urologist. Many urologists only know the muscularis propria as the term “detrusor muscle.” If I see tumor invading into the lamina propria involving the wispy muscles of the muscularis mucosae, typically I will not mention it in the pathology report as I am afraid it may be misconstrued by the urologist. Furthermore, pathologists should not use the term “superficial muscle” to denote the muscularis mucosae as clinicians will infer the term “superficial muscle” to be the inner half of the muscularis propria. There are some cases where the pathologist will be unsure if it is muscularis mucosae or muscularis propria invasion, either because of hyperplastic muscularis mucosae bundles, cautery artifact, or extensive tumor disrupting the muscularis propria breaking it into small muscle bundles. In these cases, the pathologist should convey this uncertainty to the clinician and suggest additional tissue sampling. It is critical for pathologists to use precise, unambiguous terminology and to use synonyms when possible. One should assume the clinicians do not know pathological terms and provide them with, in addition, terms that they may be more familiar with.

Probably the most common pathology error resulting in medical malpractice lawsuits that I have been involved with in the bladder is the underdiagnosis and overdiagnosis of CIS. It is difficult for pathologists to recognize CIS for several reasons. First, CIS is not always full-thickness in its atypia in contrast to the uterine cervix. Malignant cells of any quantity in the urothelium are diagnostic of CIS. CIS cells also show a range in degree of pleomorphism. Prominent denudation can also result in only isolated CIS cells being present, which are difficult to diagnose. Also on limited biopsies one may not have normal urothelium to compare to the abnormal cells; without a reference to normal tissue, where all of the cells appear abnormal, CIS can be underdiagnosed as benign. In cases where there is no normal urothelium to compare to, we have demonstrated that CIS cells are approximately four to five times the size of stromal lymphocytes. In contrast, normal urothelial cells are approximately twice the size of stromal lymphocytes. CIS may be accompanied by inflammation such that pathologists may attribute the atypia to reactive changes. Nuclear size in and of itself is not helpful in the differential of
reactive urothelial atypia from CIS as reactive urothelial cells may be quite enlarged. In contrast to reactive urothelial atypia, CIS cells are not only large but show hyperchromatic nuclei accompanied by mitotic activity and discohesion. In difficult cases, pathologists may utilize immunohistochemical stains for CK20 and p53. In my experience, this has been helpful in several cases, although not all. Whereas normal urothelium and reactive atypia shows only the umbrella cell layers to be positive for CK20 and there is an absence of p53 staining, CIS and dysplasia show numerous p53 positive cells as well as full-thickness CK20 immunostaining.

I have also been involved with a case where the patient had a history of urothelial carcinoma involving the bladder. As is commonly the case, the urologist performed a biopsy of the prostatic urethra to rule out extension of disease to the prostatic ducts and acini. Benign urothelial metaplasia of the prostatic ducts and acini was misdiagnosed as CIS involving the prostatic ducts leading to an unnecessary cystoprostatectomy.

Another case involving urothelial neoplasia resulting in a medical malpractice lawsuit was the underdiagnosis of a case of infiltrating urothelial carcinoma. The patient progressed to small cell carcinoma of the bladder several years later. In this case, several fragments of tissue showed a cellular process, which was interpreted as granulation tissue. These areas were extremely difficult to evaluate due to thermal injury. Focally, there were identifiable carcinoma cells, some with signet ring cell features. Other areas showed a cellular stromal infiltrate mimicking inflammatory cells. These cells, however, were isolated individual carcinoma cells with bland cytology. This case illustrates that cautery artifact can obscure individual cells of poorly differentiated urothelial carcinoma. In addition, occasionally isolated cells of urothelial carcinoma may be relatively bland. In cases where a cellular stromal process is identified, immunostains with cytokeratins can help resolve the issue.

I have been involved in one case where the grading of urothelial carcinoma was the key issue. This was a case of a patient with a prior history of low grade noninvasive tumor of the renal pelvis. This patient had already lost one kidney due to carcinoma. The specimen in question was that of a recurrent renal pelvic tumor which was diagnosed as high grade noninvasive papillary urothelial carcinoma. Because of the apparent progression of grade within the renal pelvic tumor, radical nephroureterectomy was performed. Although architecturally the lesion did not appear to be high grade there were numerous mitotic figures such that I felt the diagnosis was justified. However, this case was difficult and some individuals might have considered it to be borderline in grade. The lesson in this case is that one has to be extremely careful with the diagnosis and grading of renal pelvic lesions. Lesions of the renal pelvis are almost by definition very scant and often have a crush artifact. I have seen numerous cases where renal pelvic tumors have been diagnosed by pathologists as carcinoma which were merely strips of distorted urothelium. Whereas the distinction between low and high grade noninvasive papillary urothelial carcinoma of the bladder does not typically result in radical surgery, in the renal pelvis it may. Only those cases that convincingly show high grade morphology should be diagnosed as high grade carcinoma. Also, just because the grading system is dichotomized into low and high grade categories one can make exceptions and state that the lesion is borderline in some cases.
Penis

The only case that I have been involved with as a medical malpractice lawsuit relating to the penis was that of a circumcision specimen in an adult which was not inked despite a lesion being noted at gross examination. A diagnosis of squamous cell carcinoma in situ was diagnosed yet the status of the margins was left ambiguous on the pathology report. Subsequently, the urologist did not perform a wide excision and the patient developed invasive carcinoma at the site of the prior surgery. Both the urologist and the pathologist were sued. The lesson from this case is that the pathologist should be very liberal in inking resection specimens. There is virtually no downside to inking a specimen. I have seen numerous cases where unsuspected tumor was present where one could not state with certainty what the margins of resection were because the specimen was not inked. In cases where the pathologist is not certain as to the status of the margins of resection, this should be communicated in the pathology report and discussed with the clinician. In addition, it is often helpful to have such phrases as “Consideration should be given to re-excision” when dealing with such specimens.

Prostate

I have seen several cases where due to operational error misdiagnoses have resulted. These have included the diagnosis written on the wrong paperwork where a patient without prostate cancer was called cancer and a man with cancer was not diagnosed as malignant. Other cases have involved mislabeling of slides in the laboratory. In one such case, a part with high grade carcinoma from one patient was inadvertently labeled with the case number of a different patient. Other cases have revolved around contamination of tumor from one case to another. These cases illustrate the importance of developing a routine with double and triple checks to ensure that such operational errors do not occur. Ideally, one should not accession back-to-back specimens of the same type. In addition, laboratory technicians should only work on one case at a time. Pathologists should also have a heightened awareness for incongruous specimens. These would include cases where the entire case is benign except for one core with extensive high grade carcinoma. Although I have seen cases where this situation was, in fact, not due to pathology error, it is unusual enough that it could raise the possibility of switched specimens. Finally, if there is a question as to whether tissue belongs to a patient, genetic testing with microsatellite analysis can be performed.

I have seen several examples of overdiagnosis of prostate cancer resulting in medical malpractice lawsuits. These have resulted from diverse mimickers of prostate cancer. The most common mimic resulting in a medical malpractice in my experience is nonspecific granulomatous prostatitis misdiagnosed as high grade prostate cancer. There are several reasons why this lesion is likely to be misdiagnosed. First, clinically they are often very suspicious for cancer with elevated serum PSA levels, and indurated prostate on digital rectal exam suspicious for carcinoma, and ultrasound findings typical of carcinoma. Whereas most cases of nonspecific granulomatous prostatitis do not closely mimic carcinoma, a variant consisting of epithelioid cells can closely mimic high grade cancer. Unless pathologists are aware of this variant, misdiagnoses may be rendered. In one of the cases I was involved with, the pathologist performed stains for PSA, which was diffusely weakly positive throughout the case. This stain was then used to support the diagnosis of adenocarcinoma. However, weak diffuse staining is
often nonspecific and an artifact. In addition to doing stains one expects to be positive, one should perform stains expected to be negative. In this case, had the pathologist performed a stain for CD68, the pathologist would have been surprised as the entire lesion would have been strongly positive, indicating its granulomatous nature.

Another lesion overdiagnosed as prostate cancer resulting in medical malpractice that I have seen is a small focus of basal cell hyperplasia. Basal cell hyperplasia may show prominent nucleoli, mimicking prostate cancer. Architecturally, this focus stood out in contrast to the surrounding benign prostate tissue. One must be aware that mimickers of prostate cancer may architecturally closely resemble cancer, but other features point to their benign nature. In this case, the multilayering of the cells, with some of the nests appearing solid, rules out prostate cancer.

Another case resulting in malpractice that was extremely difficult was diagnosed as adenocarcinoma of the prostate with subsequent radical prostatectomy showing no tumor. This specimen’s difficulty was compounded by crush artifact, resulting in a distorted small glandular proliferation. These glands were negative for high molecular weight cytokeratin, contributing to the diagnosis of carcinoma. Because of the suboptimal histological preparation, one has to be careful in diagnosing carcinoma. There are also numerous pitfalls with immunohistochemistry using both basal cell markers and AMACR (racemase). These include the realization that negative basal cell staining does not equal cancer. Several mimickers of prostate cancer in particular show an absence or very patchy basal cell staining such as partial atrophy and adenosis. Also, some cancers may nonspecifically stain with basal cell markers, yet not showing the basal cell distribution associated with benign glands. Pitfalls of AMACR include positivity in mimickers of cancer, including adenosis, partial atrophy, nephrogenic adenoma, as well as high grade PIN. In addition, limited foci of adenocarcinoma may be negative for AMACR.

One may even be sued if one correctly diagnoses a small focus of adenocarcinoma where the subsequent radical prostatectomy shows no tumor. This is especially the case if another pathologist reviews the slides diagnosed as carcinoma and is unable to come up with a definitive malignant diagnosis. Although eventually the likelihood is that the pathologist who established a correct diagnosis of carcinoma will be removed from the lawsuit, it is prudent in diagnosing very difficult cases to get a second opinion.

In terms of underdiagnosing prostate cancer resulting in a lawsuit, one case related to a radical prostatectomy specimen where a small metastasis to a pelvic lymph node was missed. I have seen several cases where the underdiagnosis of limited prostate cancer on needle biopsy resulted in a delayed diagnosis and an alleged decreased opportunity for cure. All these cases emphasize the importance of recognizing limited adenocarcinoma of the prostate on needle biopsy. One of these cases was an example of foamy gland carcinoma, which has deceptively bland nuclei. Carcinomas resembling benign glands such as foamy gland carcinoma, pseudohyperplastic carcinoma, and atrophic carcinoma are particularly difficult to diagnose and to distinguish from benign. It is incumbent upon pathologists to identify atypical foci and work these cases up either with special stains, second opinion from a colleague, recommending a repeat biopsy, or sending the case off for consultation.
Common Medicolegal Situations and How to Avoid Them:
Genitourinary Pathology
Jonathan I. Epstein, MD

Conclusions

Certain recurrent lesions pathologists should be aware of that are at high risk for error and subsequent lawsuits. Knowledge of these situations can hopefully minimize the likelihood of such errors occurring in the future. In addition, there are general principles that can be gleaned from these isolated cases that can help pathologists avoid errors resulting in malpractice action.
Common Medicolegal Situations and How to Avoid Them:
Genitourinary Pathology
Jonathan I. Epstein, MD

General References

Eble JE, Sauter G, Epstein JI, Sesterhenn IA. Pathology & Genetics: Tumours of the Urinary System and Male Genital Organs. IARC Press. 2004


Epstein JI, Yang XJ. Prostate Biopsy Interpretation. Lippincott Williams Wilkins. 3rd Ed. 2002.
