به نام فدا
Intraoperative consultation (‘frozen section’)

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one of the most important, difficult, and stressful tasks that the pathologist performs during his practice

various descriptions, the landmark paper by Louis B. (Mayo Clinic) led to a widespread adoption of the method.

Requires:

- Experience
- Knowledge of clinical medicine
- Capacity to make quick decisions under pressure
- Good judgment
- An attitude that is conservative but not excessively so
- A keen awareness of the limitations of the method
• well-trained pathologist
• main activity in the division of surgical pathology
• knows well the surgeon requesting the procedure.

pathologist who is primarily engaged in basic research and who rotates through surgical pathology once a week ‘to keep in touch’ is ill-equipped to take the main responsibility for this delicate task
It is unfortunate that a procedure that is time-consuming, costly, and sometimes stressful is so often misused by some surgeons to:

- satisfy their curiosity
- compensate for deficiencies in recognizing normal anatomic structures
- as a mechanism to communicate the results immediately to the patient’s relatives
• a good source of income to the department (at least under the fee-for-service reimbursement system)

• excellent training for the residents

• but when unnecessary:
  • increase the medical bill needlessly
  • sometimes hamper a proper pathologic evaluation of the specimen (follular neoplasm, margins)

• particularly true in the case of mammographically detected breast lesions
There is a very simple question that the surgeon should ask himself:

Will the result of the frozen section examination influence in any way the surgical procedure? If the answer is no, the procedure is not indicated.

By using this criterion, almost half of the frozen sections done at a particular institution could have been avoided.

three legitimate purposes of a frozen section are:

(1) presence and nature of a lesion

(2) adequacy of surgical margins

(3) Adequacy of specimen
The indications and limitations of frozen section diagnosis vary from organ to organ

At the time of a frozen section, the diagnosis given **verbally** to the surgeon should be transcribed verbatim in an appropriate form and a copy of such form incorporated immediately into the chart
If the frozen sections are performed by several individuals on a rotation basis, it is important for a senior pathologist to review the material periodically to ensure:

- the quality of the sections
- agreement between the frozen section diagnosis and the final diagnosis remain at an acceptable level
- also useful in pointing out patterns of use and misuse of the procedure by the various departments
A College of American Pathologists (CAP)-sponsored review of over 90,000 frozen sections performed at 461 institutions showed a concordance rate of 98.58%, a remarkable figure.

Of the discordant cases, 67.8% were false-negative diagnoses for neoplasm. The main reasons for the discrepancies were:

1. Misinterpretation of the original frozen section (31.8%)
2. Absence of diagnostic tissue in the material frozen but presence in the material not sampled (31.4%)
3. Absence of diagnostic tissue in the frozen section but presence in the corresponding permanent section (30.0%).
• a correlation exists between the accuracy of the procedure and both the tissue type and the nature of the pathologic process. (lobular carcinoma, GM)
real aim of the frozen section procedure is to influence the course of the operation

- Most times by providing a specific diagnosis

- In some instances, telling the surgeon “Widen the surgical margins”, “Do a lobectomy”, or “Stop there”

- more useful than a very sophisticated microscopic diagnosis
a CAP-sponsored study of almost 33 000 frozen sections done in 700 hospitals from various countries showed that 90% of the procedures were completed within 20 minutes, measured from the time that the pathologist received the specimen to the time that he returned the frozen section diagnosis to the surgeon
• pathologist, thoroughly briefed on the patient’s clinical history
• ideally the surgeon and the pathologist should have discussed the case beforehand.
• The pathologist should be prepared to advise the surgeon as to the best area to biopsy.
The cryostat is now routinely used because of the technical excellence of the sections obtained.
<table>
<thead>
<tr>
<th>INSTITUTION</th>
<th>YEAR</th>
<th>NO. OF CASES</th>
<th>OVERALL ACCURACY (%)</th>
<th>FALSE POSITIVES (%)</th>
<th>FALSE NEGATIVES (%)</th>
<th>% DEFERRED</th>
<th>% DIFFERENT</th>
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*aGrade errors.
*bNo major discrepancy.
*cInsignificant error (0.9) and significant error (1.3).
*dPediatric cases only.
stains

- Most prefer hematoxylin–eosin, quality of the preparations, better correlation with the permanent sections.

- Technical modification of some special stains such as PAS (30 seconds) and immunostains (7 minutes) have been devised for possible intraoperative use.
Examination of cytology specimens obtained by touch preparation of the fresh specimen can:
- add a great deal of information
- sometimes obviates the need for them altogether
The END