Letters

Perforation of the Pharynx

With regard to the article by Heller et al. [1] on perforation of the pharynx of the newborn, I believe it important that tubes not be used, wherever possible, in examining the esophagus of the newborn. The tube may be introduced into the pharyngeal perforation and create the illusion of esophageal atresia as happened here and has been previously described [2]. The radiologist may create a false passage in passing the tube. The false passage almost never occludes the esophagus, and the diagnosis can usually be made by having the baby ingest in a normal fashion.


I suspect that several of such perforations run a benign course and never come to our attention.

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REFERENCES

Chest Film Before Laryngography

Patients with laryngeal tuberculosis are usually clinically indistinguishable from those with carcinoma of the larynx. These patients will frequently come to the attention of the radiologist with a diagnosis of carcinoma of the larynx and a request for laryngography.

Lindel et al. [1] reviewed the subject of laryngeal tuberculosis and the radiographic manifestations beautifully. However they failed to stress the need for a chest radiograph before laryngography. Patients with laryngeal tuberculosis are very infectious and therefore a hazard to hospital personnel and particularly those involved in performing a laryngogram. Since laryngography cannot distinguish carcinoma from tuberculosis of the larynx and these patients are such a hazard, this procedure should never be performed when the patient has laryngeal tuberculosis. Screening of the chest radiograph will almost always allow these individuals to be identified before laryngography is performed.

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REFERENCES

Reply

Forrest is correct in stressing the need for chest radiographs prior to laryngography in patients suspected of having laryngeal tuberculosis. Our paper noted the marked infectiousness of such patients, and we have routinely obtained chest radiographs prior to examination by the Head and Neck Service and prior to any radiographic procedures of the laryngeal region.

Those cases with obvious active pulmonary tuberculosis were not examined by laryngography, but rather by laryngeal survey radiography followed by biopsy. On the other hand, in patients with the clinical diagnosis of laryngeal carcinoma with stable upper lobe disease or old fibrotic changes in the upper lobe(s) in which active tuberculosis was not considered, laryngography was done to evaluate the extent of a possible carcinoma. This combination of events is not unusual in our experience.

Feld et al. [1] reported tuberculosis of the lung and larynx to be quite infrequent: one case in 29 patients with M. tuberculosis. However, 14 of 1,000 new patients with squamous cell carcinoma of the head and neck also exhibited infections by M. tuberculosis or atypical mycobacteria.

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Diffuse Idiopathic Skeletal Hyperostosis

I read with interest the recent article by Tsukamoto et al. [1] on radiologic aspects of spinal involvement in diffuse idiopathic skeletal hyperostosis. During the last 4 years, my colleagues and I have been investigating the clinical, radiographic, and pathologic aspects of this entity.

Tsukamoto et al. [1] point out the relative frequency of this condition, noting that it is found in 12.4% of men in the seventh decade of life. Although it is not clear what diagnostic criteria were used in arriving at this figure, the reported incidence is similar to the 12% incidence we detected in an evaluation of an autopsy population, averaging 75 years [2].

We have used three specific criteria for diagnosis of DISH.

1. The presence of “flowing” calcification and ossification along the anterolateral aspect of at least four contiguous vertebral bodies, with or without associated localized pointed excrescences at the intervening vertebral body-disc junctions.

2. A relative preservation of disc height in the involved area and the absence of extensive radiographic changes of “degenerative” disc disease, including vacuum phenomena and vertebral body marginal sclerosis.

3. Absence of apophysial joint bony ankylosis and sacroiliac joint erosion, sclerosis, or bony fusion.

Criterion 2 is used to distinguish DISH from typical degenerative disease of the intervertebral disc (nucleus pulposus), and criterion 3 to distinguish DISH from ankylosing spondylitis. It is entirely appropriate to distinguish DISH from both degenerative disc disease and ankylosing spondylitis, since clinical, radiographic, and pathologic features in the latter disorders are easily differentiated from those of DISH.

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Criterion 1 uses “four” contiguous vertebral bodies as the extent of ossification which is necessary to establish the diagnosis of DISH. The number four is purely arbitrary, although it was chosen to distinguish DISH from patients with typical spondylitis deformans. In fact, distinguishing DISH and spondylitis deformans may be neither appropriate nor correct. Spondylitis deformans is characterized by spinal osteophytes and may be related to defects in the attachment of the anulus fibrosus to the vertebral body, allowing anterolateral protrusion of disc material. DISH is characterized by flowing ossification along the anterolateral aspect of the spine, a bumpy spinal contour, radiolucencies between deposited bone and subjacent vertebral body, and radiolucent disc extensions. This ossification represents regional bone formation in the anterior longitudinal ligament, connective tissue, and anulus fibrosus. One pathologic feature of DISH is disc extension identical to that of spondylitis deformans. Furthermore, sequential radiographs reveal that DISH, in its earlier stages, may look identical to spondylitis deformans as evidenced by figure 3A in the article by Tsukamoto et al. [1]. Thus DISH may represent severe spondylitis deformans with exaggerated osteophytes and significant ligamentous ossification.

If DISH does indeed represent an exaggerated pattern of spondylitis deformans, the cause for its appearance in some people as opposed to others remains unknown. Certain individuals seem to be “bone formers” and develop extensive ossification at sites of tendon and ligament attachment to bone. This produces the spinal radiographic features of DISH [2] and results also in similar outgrowths at extraspinal sites such as the pelvis, calcaneus, ulnar olecranon, and patella [3]. The possibility that this bone-forming tendency is genetically determined must be considered [4], since we have noted that 34% of patients with DISH possess the HLA B27 antigen [5], the same antigen present in other articular disorders characterized by bone proliferation, such as anklylosing spondylitis. Further evidence that patients with DISH are bone formers includes the finding of heterotopic ossification about joint prostheses following surgery in patients with DISH [6] and the appearance of bony proliferation about osseous erosions in patients with both rheumatoid arthritis and DISH [7].

Tsukamoto et al. [1] have reiterated characteristic radiographic findings of the vertebral column in DISH, including middle and lower thoracic spine predilection, anterolateral distribution, and right side thoracic predominance. Although they found no associated symptoms, we have noted clinical symptoms and signs in patients with DISH which have included mild pain and restricted motion in the spine, dysphagia, and “tendonitis,” particularly about the heel and elbow. Many questions regarding this entity remain unanswered. Since it is a common disorder, this condition certainly deserves further investigation.

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REFERENCES

RAPORT System

We find the paper on the RAPORT radiology system by Mani [1] to contain serious misrepresentation from its title to its conclusion.

1. There has been no “clinical trial” in any formal sense. The paper is a report on a continually evolving system installed in a number of institutions. There has been no attempt to quantitatively analyze the data even by a “before-after” study. Much of the data shown should be questioned since only 223 reports (less than 0.2% of our yearly load) were analyzed to provide data for figure 3 on our institution’s experience with RAPORT.

2. To define this system as an “automated radiology management and reporting system” is a gross overstatement. For most of the period under discussion, report generation has been the major function provided in the Toronto General Hospital. Automated billing has been available for the past 18 months. More recently, a second independent computer and associated peripherals (MAXFILE) were installed to support a limited patient data base. This system was added at significant additional cost. Even now, we do not have facilities for room and patient scheduling, film control, verbal report support, long term report storage, and cross-referencing.

3. In our institution the turnaround time (defined in the article as “the time required to process a radiographic report from radiologist interpretation to availability for signature”) is alleged to be 0.5-1 hr. This seems to be based on transit time through the room where the mark-sense forms are processed. In fact, the turnaround time for RAPORT cards (reports without dictation) is never less than 4 hr and usually is days. Dictated reports take longer. A broader definition of turnaround time as the time between film production and report arrival in the hands of the referring physician would be much more meaningful. Quoting such short times implies that RAPORT will speed the turnover of reports in a department. In fact, the speed of report generation (which is increased by RAPORT) plays such a small part in the total turnaround time that the impact of RAPORT is minimal. RAPORT will not make an inefficient department efficient.

4. Although mark-sense forms were used in an average of 71% of reports generated (table 3), this should not be interpreted as implying that RAPORT handles 71% of the typing load, since dictated reports tend to be more complex and longer.

5. Although an average down time of 2.5 hr per month sounds minimal, one failure in our system due to human error resulted in backlog of films which took about 3 months to clear. This was prior to the introduction of MAXFILE, and all patient data had to be reentered from the film bags. Because
RAPORT alone lacks a good backup and recovery procedure. Recovery time must also be considered as well as down time.

6. Our RAPORT system has such limited storage space that dictation is deleted from the system daily. Since the radiologist does not usually see the reports until the following day, much of the potential for easy error correction is lost.

7. The reasons for the rejection of RAPORT in the four departments cited in the article seems to put the onus on deficiencies in the departments without mention of the deficiencies of RAPORT itself. Data on individual user acceptability has not been provided. In our experience the response is extremely mixed.

We believe that present-day technology can provide real assistance in management and report generation, but RAPORT falls significantly short of these goals. It is of greater assistance to management than to radiologists. We feel that these criticisms should be stated to redress the imbalance in the article which emphasizes mainly the benefits of the system.

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Mani’s reply will appear in a subsequent issue.