



FIG. 1. Decision tree for work-up of a breast mass.

Cost savings is not the only, or even the major, reason to use FNA biopsy of the breast. The technique is simple, safe, accurate, and usually allows the diagnosis to be given at the first office visit. When malignancy is diagnosed, it greatly facilitates discussion of treatment alternatives with the patient before any operative procedure is performed. If the patient is a candidate for tylectomy, axillary dissection, and radiation therapy, the incisions can then be planned in the most expeditious and cosmetic manner. Our major conclusion from this study is simply that FNA biopsy does not need to replace excisional or frozen section biopsy to be cost effective. Perhaps the main reason that FNA biopsy of the breast has not become more widely utilized is the concern over whether it is accurate enough to replace excisional biopsy. Abele, for example, has recommended a graduated, three-phase program to safely implement FNA biopsy in centers where it has not been used.¹³ If, instead, surgeons simply plan to confirm the FNA result with excisional or frozen section biopsy, there is no liability from a false result, and the tremendous benefits of FNA biopsy could be more quickly utilized in a larger number of medical centers.

References

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DISCUSSION

DR. J. SHELTON HORSLEY (Richmond, Virginia): I have enjoyed this paper by Dr. Pories. I think it is a real contribution to show that this technique is, in fact, cost effective.

We have had a great deal of interest at the Medical College of Virginia where Jack Frable, who is the Chairman of our Division of Surgical Pathology, has been one of the great proponents of this technique. We have done this in some 1300 patients with breast lumps. We have had approximately 400 positive findings of cancer.

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I had the opportunity to review the manuscript, and the authors talked about several patients who had a negative biopsy, and in fact, they were willing to follow on that basis without excising the lesion. We have worried about that particular type of lesion, and I would like to show you our algorithm for handling this problem.

(Slide) Any mass worthy of an excisional biopsy in our institution usually undergoes a fine needle biopsy. If we think it is a cyst, we aspirate it ourselves. If it is a cyst and disappears, we do have the fluid examined cytologically. If that is negative, which invariably it is, we recommend a periodic follow-up. If it is a cyst, but there is a residual mass, we go

ahead with an excision of the mass. Here is the area that I think we need to be concerned about. If it is a solid mass and benign on fine needle aspiration biopsy, we strongly advocate complete excision of that particular mass to give to the pathologist for microscopic examination to be absolutely sure of the underlying nature of the lesion.

I will ask Dr. Pories, what criteria do you use in deciding whether a mass on fine needle aspiration that is reported as benign should be followed rather than totally excised?

DR. HAROLD J. WANEBO (Charlottesville, Virginia): I think this has been another presentation that emphasizes the use of a technique that, I think, is now ready for the open market.

Fine needle aspiration cytology is now used in most institutions in the country and is available in most hospitals. I think this presentation confirms that it is not only an efficient and elegant technique, but it is cost effective.

I certainly can not go through all of the ins and outs of this cost analysis. In fact, I was going to ask Dr. Pories if he could review my tax file from last year, as he is certainly adept with the numbers. I would just accept his conclusions about the cost effectiveness and emphasize a couple of other points.

First of all, in their review of one hundred cases, they had 23 fine needle aspirations that were positive for cancer, but none of these were false-positives. This of course emphasizes the quality of their cytopathology and reinforces the confidence that many of us have with this technique.

With an aspiration cytology that is positive, it is the practice of Dr. Pories and colleagues to proceed directly to a biopsy on an inpatient basis and to follow that then with the primary procedure. In our own institution, we would go ahead with the primary operation, which in most cases is still a mastectomy. Of course, it is less of a problem if one is going to do a local excision and axillary dissection as the primary treatment.

I think the fact that they had no false-positives should be emphasized, because this is one of the major concerns about this technique, if you use it as a directive for primary treatment.

They have taken the safer approach (as do many surgeons) to go ahead and do an open biopsy first, albeit in the operating room, and then to follow with the primary procedure.

I think they mentioned that two of their 65 biopsies were actually false-negative. As Dr. Horsley pointed out, we would all be concerned about the negative aspiration.

As a rule, we always try to obtain an open biopsy on these patients, because I think that if you do miss one of these, then you would be liable in more ways than one.

I would like to conclude by asking Dr. Pories if they have some selection process in their following of that group of patients. Thus, among the patients with negative fine needle aspiration cytologies, were some of these patients with "thickening" of the breast only, or were some of these patients with actual palpable masses? Is there a patient group that they

would be willing to follow if the fine needle biopsy was negative? This point needs clarification.

DR. DONALD LANNIN (Closing discussion): I would like to thank both Dr. Horsley and Dr. Wanebo for their kind comments. I think we agree with both of them, really, in the main points they have made.

I would just like to clarify the situation as far as following a patient with a negative fine needle biopsy. The hundred patients on whom we did this analysis are all patients on whom we did an excision of the tumor one way or another, either with a frozen section or with the excisional biopsy as an outpatient. During the same time, there were a handful of patients on whom we elected to do a fine needle biopsy and then follow them conservatively. If you start with the premise that there is a mass in the breast, I think that you need to excise the mass at some point. However one of the most difficult things at times is to decide: Is there really a mass in the breast, or is this just a normal thickening or normal anatomy of this woman's breast?

I think a safe approach is to make as your first decision the choice of whether the mass requires an excisional biopsy or not. We all see women who come in with breast complaints, and we decide clinically that there is not a mass that is worthy of biopsy. Yet there may still be a slight nagging doubt on the part of the referring physician, the patient herself, or occasionally the surgeon. It is in these women that we occasionally do a fine needle biopsy for reassurance, and, if it is negative, follow the patient conservatively. I would not advocate following a definite mass in the breast even if the fine needle aspiration is negative. If we decide that it is a mass worthy of excision, then the reason to do the fine needle biopsy is to determine whether we do this as a one-stage procedure as an inpatient or as an excisional biopsy as an outpatient. In addition, of course, if the mass is a cyst that contains nonbloody fluid and completely disappears, then we do not proceed with any further treatment.

We have no quarrel at all with Dr. Wanebo's policy of doing a mastectomy based on the fine needle biopsy. If clinically we feel confident that a mass is a cancer and the pathologist says definitely that it is a cancer, we also feel confident in proceeding with definitive therapy based on this. Of course, if we do, the cost savings is even greater than what we have shown. During the first year or two that we employed this technique, we wanted to be as safe as possible, and for that reason we defined this policy where we usually confirm the fine needle result with an excision of one type or another. The only drawback I could see to doing this would be the potential of increased cost; thus, the fact that we found that this actually saved us money can be an impetus to allow this technique to be used more widely in hospitals where it has not been used so far.

In closing, I would like to emphasize again the point that Dr. Pories alluded to, that one of the real benefits we had not anticipated is the markedly improved teaching that has resulted from fine needle aspiration biopsy. When the pathologist comes over to our clinic, he always lets all of the medical students and residents look at the slides, and we discuss not only this particular case but a variety of topics. This improved communications has markedly improved our teaching.