

than follow-up of a non-palpable lesion. On the chance that the lesion is malignant, the risk for metastasis is higher, since palpable masses are usually larger than non-palpable lesions<sup>(13)</sup>.

The three main areas where Fine Needle Aspiration Cytology still plays a major role are the following: (a) diagnosis of benign disease in symptomatic palpable lumps as part of triple assessment; (b) staging of breast carcinoma, in particular preoperative axillary lymph node FNAC and intraoperative sentinel node imprints; and (c) diagnosis of metastatic disease at distant sites following treatment for carcinoma<sup>(14)</sup>.

Fine-needle aspiration biopsy uses a small-gauge needle (21- to 25-gauge) to obtain fluid and cellular material from a breast lump or suspicious area of breast texture. Samples are obtained from the entire lump or suspicious area by multiple passes with one puncture<sup>(15)</sup>.

In fact, Fine Needle Aspiration Cytology has advantage of provide a diagnosis before the time that operation is performed, this situation enable the patient and surgeon to discuss and decide the type of surgery to be done and may obviate the need for a 2 stage procedure in surgical management of breast cancer<sup>(16)</sup>.

Fine-needle aspiration cytology is a very useful test, relatively rapid and inexpensive, less invasive owing to finer needle size and is easier/safer in certain lesions, such as very small lesions, lesions just under the skin or very close to the chest wall<sup>(17,18)</sup>.

The aim of this study was to study the accuracy, sensitivity and specificity of Fine Needle Aspiration Cytology of solid breast mass compared to histopathological examination, and to study the distribution of breast masses according to the patient's age and site of involvement.

## Methods

This retrospective study was done between April 2007 and March 2010, the study included 126 patients with palpable solid breast mass.

All the patients were examined by a pathologist and a surgeon; they had palpable evidence of breast lump on clinical examination.

The patients were examined by U/S using a high-resolution sonography system (Sonoline Versa pro, Siemens Medical System) using a 7-10 MHz linear array transducer, US characteristics that were evaluated included: size of lump, margin (well defined or ill defined), shape (regular or irregular), consistency (whether solid or cystic), presence of calcification. Only those patients with solid breast masses were referred for Fine Needle Aspiration Cytology, patients with cystic masses were excluded from the study.

The Fine Needle Aspiration Cytology was done using fine needle (G 20 or 21). The aspirated material was spread on 2 slides and fixed in 90% alcohol, stained by Hematoxylin and Eosin (H and E) and examined under light microscope. Those aspirates that had yielded insufficient or inadequate materials for diagnosis were excluded from the study of surgical specimens mastectomy.

The final diagnosis of breast masses was confirmed by subsequent histopathological examination of the excised specimen. The type of surgery ranged between excisional biopsy for probable benign lesions and simple mastectomy with axillary sampling for probable malignant lesions.

All the aspirated and biopsy materials were examined in the laboratories of Al-Kadhimiya teaching hospital and some Private laboratories, Baghdad, Iraq.

Statistical analyses were done by using the program SPSS (version 14 for Microsoft Windows). Statistical significance was indicated by a value of less than 0.05.

## Results

The study population included 126 females with palpable solid breast mass. The mean age was 56 years (range, 17-67 years). 56 patients had mass in the Rt. Breast and 70 (57.4%) had mass in the Lt. breast.

Of 126 breast masses 58 (47.5%) diagnosed as malignant (54 true-positive and 4 false negative) with diagnostic accuracy of 93% (54 of 58). Sixty four patients (52.5%) were diagnosed as benign