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## Risks to the fetus from diagnostic imaging during pregnancy: Review and proposal of a clinical protocol

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Every day, medical practitioners face the dilemma of exposing pregnant or possibly pregnant patients to radiation from diagnostic examinations. Both doctors and patients often have questions about the risks of radiation. The most vulnerable period is between the 8th and 15th weeks of gestation. Deterministic effects like pregnancy loss, congenital malformations, growth retardation and neurobehavioral abnormalities have threshold doses above 100–200 mGy. The risk is considered negligible at 50 mGy and in reality no diagnostic examination exceeds this limit. The risk of carcinogenesis is slightly higher than in the general population. Intravenous iodinated contrast is discouraged, except in highly selected patients. Considering all the possible noxious effects of radiation exposure, measures to diminish radiation are essential and affect the fetal outcome. Non-ionizing procedures should be considered whenever possible and every radiology center should have its own data analysis on fetal radiation exposure. In this review, we analyze existing literature on fetal risks due to radiation exposure, producing a clinical protocol to guide safe radiation use in a clinical setting.

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## Fine needle biopsy

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**Background:** Fine Needle Aspiration Cytology (FNAC) with its minimal invasiveness has been a well accepted procedure in the initial diagnosis of various swellings. With time and experience, high sensitivity and specificity of FNAC over conventional open biopsy has led to the wide acceptance of this procedure.

**Objective:** We decided to compare the accuracy of this method with open biopsy & see if this technique reduces the need for more invasive and costly procedures and to evaluate the utility of aspirate cytology as a first line diagnostic tool in palpable neck masses & even non-palpable masses under U/S or CT guide.

**Patients & Methods:** A hospital based prospective for (100) patients with various swellings at Neck regions in the Department of General surgery, AL-Yarmouk Hospital between Jan. 2014 to Jan. 2015. FNAC were done from the palpable masses of neck regions and were compared with biopsy findings of the same lesions. The sensitivity, specificity and accuracy rates were calculated.

**Results:** A total 100 patients were subjected to both FNAC and histo-pathological examination (HPE). Total (41%) were females and (59%) were males. The age group ranged from 21-30 years. 87% of patients were in the age group below 50 years. The highest number of cases included Thyroid 52(52%), followed by lymph nodes 29(29%), salivary glands 11 & 8 miscellaneous. The overall sensitivity and specificity of FNAC were (72%) and (87%) respectively in determining the various pathologies. The overall accuracy of FNAC in present study was (79%).

**Conclusion:** FNAC is a minimally invasive first line investigation with a high sensitivity and specificity for the diagnosis of various head and neck masses and it's highly recommended for diagnosis of cervical swellings.

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