

The current study as other studies (Wang et al., 2004<sup>(35)</sup>; Koyamatsu et al., 2002<sup>(21)</sup>; Vassallo et al., 2000<sup>(36)</sup>) was undertaken with assumption that the immunohistochemical detection of P53 with the monoclonal antibody is almost associated with the presence of the mutated forms of P53 alleles, based on wild type P53 protein possessing a short half-life, ranging up to 30 minutes, hence not accumulating to immunohistochemically detectable levels, and mutant forms having longer half-lives providing for immunohistochemical detection in many instances<sup>(37)</sup>.

Such immunohistochemical detection of P53 has frequently been used as a simpler method than genetic analysis of P53 mutations. However, it is not very specific for evaluation of P53 mutations in human cancers since tissue fixation, the type of antibody and other technical factors may affect the detection<sup>(38)</sup>. In addition, not all mutations in the P53 gene result in the increase accumulation of the protein, frame shift and non-sense mutations can lead to expression of an altered P53 which is undetectable by the available monoclonal antibodies, or some mutations may disrupt the binding sites of the anti-p53 antibody<sup>(21)</sup>.

The absence of antibody reactivity therefore does not rule out genetic alterations of the P53 in human tumors<sup>(39)</sup>.

In conclusion this study showed a significant correlation between P53 over-expression and the histological type of the invasive cervical carcinoma. Although there was no statistical correlation between P53 over-expression and the three grades of the invasive cervical carcinoma, poorly-differentiated tumors showed the higher percentage of P53 over-expression. No significant difference

was found between P53 over-expression and the age of the patient.

### **References**

1. Huang CC, Kashima ML, Chen H, Shih IM, Kurman RJ, Wu TC. HPV in situ hybridization with catalyzed signal amplification and polymerase chain reaction in establishing cerebellar metastasis of cervical carcinoma. *Oncology* 1999; 5:587-591.
2. Iraqi Cancer Registry (1987). Results of Iraqi Cancer Registry 1976-1985. Ministry of Health. Baghdad, Iraq. P18, 35, 59.
3. Iraqi Cancer Registry (1999). Ministry of Health. Baghdad, Iraq.
4. Gebhardt MC. What's new in musculoskeletal tumor surgery. *Journal of bone and joint surgery* 2001; 83-A: 630-634.
5. Kressner U, Inganas M, Byding et al. Prognostic value of P53 genetic changes in colorectal cancer. *J.Clin. Oncol.* 1999; 17:593-599.
6. Naresh KN, Oconor GT, Soman CS et al: A study of P53 protein, proliferating cell nuclear antigen, and P21 in Hodgkin's disease at presentation and relapse. *Human Pathology* 1997; 28:549-555.
7. Lacombe L, Dalbagni G, Zhang ZF, et al: Over expression of P53 protein in a high-risk population of patients with superficial bladder cancer before and after bacillus calmette-guerin therapy: correlation to clinical outcome. *J.Clin.Oncol.* 1996; 14:2646-2652.
8. Ralhan R, Sandhya A, Meera M, et al. Induction of MDM2-P2 transcripts correlate with stabilized wild-type P53 in betel- and tobacco-related human oral cancer. *Am.J.Pathol.* 2000; 157:587-596.
9. Carson D.A.; Lois A. Cancer progression and P53. *Lancet* 1995; 346:1009-1111.
10. Han H, Landreneau RJ, Santucci TS, et al. Prognostic value of immunohistochemical expressions of P53, HER-2/neu, and bcl-2 in stage I non-small-cell lung cancer. *Human Pathology* 2002; 33:105-110.
11. Graflund M, Sorbe B, Sigurdardottir S, Karlsson MG: Relation between HPV-DNA and expression of p53, bcl-2, p21<sup>WAM</sup>, MIB-1, HER-2/neu and DNA ploidy in early cervical carcinoma: correlation with clinical outcome. *Oncology Reports* 2004; 12:169-176.
12. Miller RT (2001). Technical immunohistochemistry: achieving reliability and reproducibility of immunostaining. Propath. Laboratory, Inc. (Available online at [www.propathlab.com](http://www.propathlab.com)).
13. Gascoyne RD, Krajewska M, Krajewska S, et al. Prognostic significance of Bax protein expression in diffuse aggressive Non-Hodgkin's lymphoma. *blood* 1997; 90:3137-3178.