

## **Discussion**

Cervical cancer is one of the most frequent diseases in women, it comprises approximately 12% of all cancers in women worldwide<sup>(17, 18)</sup>. In Iraq, as in developing countries, the lower social conditions, the average age of the first intercourse, the high rate of parity and the lack of the primary care in the health system are important risk factors for the rate of cervical cancer<sup>(19)</sup>.

This study showed that there is a significant difference between the mean age of invasive cervical squamous cell carcinoma and the mean age of invasive cervical adenocarcinoma ( $P < 0.05$ ) and this finding is similar to that of Abbas S.M, 2002<sup>(20)</sup>.

Concerning the relation between P53 over-expression and the age of the patients, the findings of this study were similar to that of Koyamatsu et al., 2002<sup>(21)</sup> and Nair et al., 1999<sup>(22)</sup> which showed that there is no significant difference between P53 over-expression and the age of the patients.

Conflicting data concerning P53 over-expression in relation to the grade of invasive cervical carcinoma have been reported. Cheah and Looi, 2002<sup>(23)</sup> showed that there is a significant correlation between P53 over-expression and the grade of the tumor, in such a way that P53 became more frequently expressed with less differentiated tumors. On the other hand, Nair et al., 1999<sup>(22)</sup> showed that there was no significant correlation between P53 over-expression and the three grades of invasive cervical carcinoma, which is similar to the findings in this study.

Although there was no significant correlation statistically between over-expression and the grade of invasive cervical carcinoma, poorly differentiated tumors showed a high

percentage of P54 over-expression (50%).

The evaluation of P53 over-expression in invasive cervical carcinoma was examined in numerous studies, but the obtained results were controversial. In the majority of the studies (Abdulla A.M, 2006<sup>(19)</sup>; Kersmaekers et al., 1999<sup>(24)</sup>; Kainz et al., 1995<sup>(25)</sup>), the frequency of the P53 over-expression in cervical squamous cell carcinoma was comparable to the results of this study.

P53 over-expression in adenocarcinoma in this study was also comparable to other studies (Abd et al., 1999<sup>(26)</sup>; McCluggage et al., 1997<sup>(27)</sup>). In concordance with other studies (Cheah and Looi 2002<sup>(23)</sup>; Abd et al., 1999<sup>(26)</sup>; Quinn MA., 1997<sup>(28)</sup>; Nagan et al., 1997<sup>(29)</sup>), this study showed that P53 over-expression in adenocarcinoma was significantly higher than that in squamous cells carcinoma of the cervix.

Some studies (Cheah and Looi 2002<sup>(23)</sup>; Tenti P et al., 1998<sup>(30)</sup>) showed that the higher level of P53 expression in adenocarcinoma compared to squamous cell carcinoma may be due to higher frequency of mutation in adenocarcinoma. Most mutations induce conformational changes causing over-expression of P53 protein, stabilizing it and making it detectable by immunohistochemical analysis (Zheng A et al., 1999<sup>(31)</sup>; Berns EM et al., 1998<sup>(32)</sup>; Villuendes R et al., 1997<sup>(33)</sup>).

It has been suggested that P53 over-expression represents a poor prognostic factor<sup>(11)</sup>. Since P53 expression in adenocarcinoma is significantly higher than that in squamous cell carcinoma of the cervix, this could contribute to the less favorable prognosis of the former than the latter<sup>(34)</sup>.