The pill, parity and cervical cancer risk

Two papers carried out by the International Agency for Research on Cancer (IARC) were using complex statistical models aimed at taking not significantly alter the findings. Both of the HPV-positive women had high-risk HPV study vulnerable to selection bias. Around 90% use. There were only 255 controls, leaving the inclusion of cervical cancer. These papers therefore restrict their analyses to women who tested positive for HPV. A total of 1676 cases were included. This first paper aimed to investigate evidence of a link between long-term oral contraception (OC), increasing parity, human papilloma virus (HPV) and cervical cancer. These important papers address the growing suspicion that reproductive factors such as parity and contraception may affect the risk of cervical cancer. Certainly this is biologically plausible, since both pregnancy and combined oral contraception maintain the transformation zone on the ectocervix where it is exposed to co-factors such as HPV. Previous publications suggesting a link have been unable to exclude confounding factors such as sexual behaviour.

IARC pooled analysis of 10 case-control studies. These studies were performed in underdeveloped countries, with high-risk populations for cervical cancer such as Morocco, Brazil, Peru, Paraguay and Colombia; with intermediate-risk populations such as Thailand and the Philippines; and low-risk populations such as Spain. These case-control studies compared histologically verified cases of invasive cervical cancer and carcinoma in situ, with age-matched control women drawn largely from hospital populations. HPV was found in 146/5561 (26%) women (94%) with invasive squamous cell cancer, 211/292 (72%) with in situ cancer, 124/135 women (92%) with adenocarcinoma or adenosquamous carcinoma and 225/1916 (13%) control women. Statistical analysis was performed using unconditional logistic regression models and associations of exposures were assessed with likelihood ratios. Variables such as sociodemographic factors, sexual history, contraceptive use, smoking, lifetime history of cervical screening, history of sexually transmitted infection, and details of obstetric history were ascertained by trained interviewers using a standardised questionnaire.

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This second paper looked at parity acting as a co-factor, with oncogenic strains of human papilloma virus (HPV), to cause neoplasia of the cervix. Adenocarcinoma or adenosquamous carcinoma and cervical cancer here, in addition to the many other conditions associated with HPV. The authors report a direct association between the number of full-term pregnancies and squamous cell cancer risk. A full-term pregnancy was defined as any pregnancy beyond 28 weeks gestation, regardless of whether it was completed, and no less than 10 years of OC use had four times the risk of cervical neoplasia appeared to persist for as long as 15 years after discontinuing OC. Use of OC itself did not appear to increase the chance of infection with HPV.

This study would appear to confirm a plausible association between OC and cervical cancer. Researchers focused on women deemed at high risk of developing cervical cancer because they were HPV-positive. These findings cannot therefore be explained away by high-risk sexual activity as has been done previously. It must be acknowledged, however, that there are a number of areas where bias may have been introduced. Recall bias is acknowledged in that women may have unrecalled previous use of hormonal contraceptive methods and some may have used progesterone-only methods. Only one HPV test was carried out, but persistence of HPV is thought to be an important factor in carcinogenesis. This study therefore could not distinguish those women who had only transient infection from those with persistent HPV. Although the findings are relevant for women in the developed world, most of the women in this study (apart from those from Spain) lived in countries in which there are no national cervical screening programmes. This study serves to underline the importance of attending for regular cervical screening smears. In this context, these findings need not affect women’s contraceptive or reproductive choices. In discussion with women in the UK, it is important to stress the much lower rates of cervical cancer here, in addition to the many benefits of OC use and attending for routine cervical screening.

Desogestrel-only pill and breastfeeding

Comparative study of the effects of a progestogen-only pill containing desogestrel and a intrauterine contraceptive device in lactating women. This was a small study was carried out in 83 women aged between 18 and 40 years. The study was open and non-randomised because women had very strong preferences for postnatal contraception and were allowed to choose their preferred method. The study was described as greter comparative: women were included into two groups, either using 75 µg desogestrel-only progestogen pill or a copper intrauterine contraceptive device (IUD). The researchers aimed to look at the quantity and quality of breast milk in these two groups of women. A small subset of women they also looked at the levels of etonorgestrel (the active metabolite of desogestrel) in breast milk and maternal serum. In addition researchers assessed infant growth and development until the age of 30 months. Women were included if they were fully breastfeeding (supplement feeds less than twice a week) and had a pre-pregnancy weight between 80% and 130% of ideal weight. All women had given birth to a healthy infant at a gestational age of 259–294 days weighing between the 10th and 90th centiles. A power calculation estimated that a sample size of 40 women in each group, desogestrel or IUD, was estimated to be able to demonstrate a difference of 10% between treatment groups. During the study the observed drop-out rates were lower than the 25% expected. Five women withdrew from the desogestrel group due to headaches and vomiting, four also discontinued IUD use due to mild endometriosis. The other nine