

vironment. No human cases of vibrio infection were known in Kent at the time.

Other laboratories in the U.K. have isolated *V. cholerae* from the environment (J. H. McCoy, personal communication). Prof. Rita Colwell, during an intensive study of Chesapeake Bay, Maryland, U.S.A., has isolated many strains of *V. cholerae*, including one of the 01 serovar; no known case of cholera existed in the area.<sup>1-3</sup>

It is clear, therefore, that these vibrios are much more common than people realise so that it is unnecessary to postulate aerial dissemination from tropical areas to account for the presence of *V. cholerae* in temperate zones.<sup>4</sup> They appear to occur there naturally in the environment.

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### CONSEQUENCES OF INDUCED ABORTION

SIR,—The W.H.O. Task Force report (Jan. 20, p. 142) of the effect of induced abortion on gestation, birth-weight, and spontaneous abortion leaves several questions unanswered. We feel these in part relate to the epidemiological limitations of undertaking such a retrospective assessment in eight different European cities. Even the pooling of data for analysis from certain cities based upon the different abortion techniques used (e.g., vacuum aspiration or dilatation and curettage) is debatable because exact operative details are likely to be fragmentary—yet the hypothesis that termination of a first pregnancy affects the outcome of the succeeding pregnancies has as its foundation the concept that excessive cervical stress, from whatever method is used, is largely responsible for the sequelæ.

The finding that vacuum aspiration was not associated with any adverse outcome in one city cluster is difficult to accept as an overall judgment on this method when, in another city cluster, vacuum aspiration was associated with a greater risk of short gestation than conventional D. and C. (although the total risk of adverse outcome was not significantly increased). It is equally difficult to know how to interpret the findings in two out of the three city clusters of a significantly higher risk of adverse outcome of either midtrimester abortion, preterm delivery, or low birth-weight infants among women whose only previous pregnancy had been surgically terminated than among primigravidæ or among women whose only previous pregnancy had ended in a live birth.

Prospective surveys will more accurately assess the risk of abortion in a defined population, but even these may not clearly identify those patients most prone to adverse effects and the contributory role of different abortion techniques. Women requesting termination are not a homogeneous population in several respects. Many have a cervix which dilates easily without undue force or consequences, provided dilatation is not excessive, but in a small proportion the cervix is unyielding or rigid and great force is required to dilate it sufficiently to evacuate the uterus. This subgroup will be especially at risk of cervical incompetence and its sequelæ and may not be easily identifiable in an overall population at lesser risk. Indeed such women are probably programmed from conception to suffer excessive cervical stress at termination in the first trimester, to take a long time to abort in the midtrimester with some techniques and possibly sustain trauma to the lower uterus or cervix (particularly with intra-amniotic methods), and to have a prolonged labour at term with a relatively high operative delivery-rate, particularly caesarean section. Indeed patients who have a low Bishop score are more likely than others to become

postmature rather than to deliver on time. Unfortunately, cervical status cannot yet be assessed accurately in early pregnancy but when this becomes possible prospective studies of comparable control and index groups should determine those that are specifically at risk. Whilst attempts have been made to measure cervical resistance and the force necessary to dilate the cervix, it is similarly difficult to quantify these to indicate the contributory role of different surgical and induced abortion methods in affecting outcome. These factors indicate some of the difficulty in assessing the consequences of abortion in general and of predicting those at greatest risk.

We were sufficiently concerned about trauma to the lower uterus and cervix that we changed our practice of inducing midtrimester abortion from intra-amniotic prostaglandin techniques to extra-amniotic prostaglandin in gel, since cervical lacerations occur less frequently. Similarly when undertaking surgical termination in the first trimester we now abandon the procedure if excessive force seems to be required and insert extra-amniotic prostaglandin in gel, evacuating the uterus later. We appreciate that these oxytocics may themselves induce some cervical damage and have consequences of their own even when given by this route, but we feel that they are likely to be less than those occurring from surgical trauma in these difficult cases. Future developments aimed at dilating the cervix gently, by the use of locally administered therapeutic agents or cervical polymer plugs which swell gradually, may reduce the adverse effects of termination.

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### BACTEROIDES SPECIES IN SUBAREOLAR BREAST ABSCESS

SIR,—Mr Leach and colleagues (Jan. 6, p. 35) refer to our report of three cases of anaerobic subareolar breast abscess<sup>1</sup> and suggest that the strain of *Bacteroides fragilis* mentioned in our paper may have been *B. bivius*. However, the organism had bacteriological characteristics which are more akin to *B. fragilis* than *B. bivius*. We did not give detailed characteristics in our paper and would like to do so now. The organism was a gram-negative pleomorphic obligate anaerobe resistant on disc sensitivity tests to penicillin (2 unit disc), vancomycin (5 µg), colistin (10 µg), and kanamycin (1000 µg) and sensitive to erythromycin (60 µg) and rifampicin (15 µg). Cultures of the organism fermented sucrose, lactose, and xylose, with acid production; rhamnose, trehalose, and mannitol were not fermented. The organism also grew well in bile-salt medium. The organism produced fatty acids in peptone yeast glucose medium, the major acids being acetic, propionic, and succinic acids; isovaleric and lactic acids were also produced in small quantities. These acids were detected with a Pye Unicam series 104 FID gas liquid chromatograph fitted with a suitable column. We thank Dr O. A. Okubadejo of St Mary's General Hospital, Portsmouth, who confirmed these findings.

The source of the infection in our patients was not known, but we speculated that it could have been the mouth flora of cohabiting partners. *B. fragilis* is not a common inhabitant of the mouth; nevertheless it very occasionally can be a transient oral commensal.<sup>2</sup>

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