Table II. Maternal and fetal blood concentrations of F^- and urinary concentrations of the newborn after anaesthesia with methoxyflurane (in μM).

	F^- blood maternal	F^- blood fetal	F^- urines newborn	Time of anaesthesia (min)
Mean value	5.66 (15)	2.70 (20)	4.26 (20)	12.25 (21)
SD	3.91	1.45	3.20	5.23
$S\bar{x}$	1.01	0.325	0.775	1.16

Number of cases in parenthesis.

tions[13,19]. The findings of the present study support this observation, since the mean cord fluoride concentration in our 21 cases was $^1/_2$ that of the maternal blood. Further, the urine of the newborn did not contain any measurable amount of the halide. As previously postulated[12], two mechanisms could explain the difference between the levels of F^- in the mother and the baby: the uptake of the halide by the rapidly growing skeleton of the fetus and the uptake by the zones of calcification often found in the human placenta[20].

Finally, some consideration should be given to the problem of safety. As pointed out by FRY and TAVES[13], it would appear questionable to start using a new anaesthetic, when little is known about its metabolism. In this connection, it is somewhat reassuring to note that the present results confirm that, throughout anaesthesia, till extraction of the child, the cord fluoride values were well below those usually considered as dangerous[21]. Our mean fluoride value for the mothers (5.6 µmol/l) represents a very modest increase in F^- concentration and is much lower than those capable of impairing renal function[22,23].

Résumé. Le passage diaplacentaire de F^- libéré par le métabolisme du méthoxyflurane pendant l'anesthésie pour césarienne a été dosé dans le sang maternel et foetal. Le taux sanguin du cordon en F^- était la moitié du taux sanguin artériel de la mère à la naissance de l'enfant. On n'a pas trouvé un taux élevé en F^- dans les urines, du nouveau-né pendant les 12 premières heures de vie.

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Chromosome Damage Induced by Gentamicin in Mouse L-cells

Many mammalian cell cultures, growing in the presence of antibiotics, are frequently contaminated by mycoplasma[1,2]. Such unsuspected infections can be an important source of artefacts in many experiments and might therefore result in the misinterpretation of experimental results. Presence of mycoplasma can alter macromolecular synthesis, cellular morphology and growing rate of cell-cultures, and was also shown to induce chromosomal aberrations and to modify sensitivity to viruses and drugs[2]. In studies performed in our laboratory[3] on the physico-chemical properties of virions (L-cell virus) produced by different L-cell sublines, such contamination was found to depress the amount of uridine-^{3}H-labelled L-cell virus and to cause a degradation of viral RNA to low-molecular weight species.

Several methods have been recommanded to eradicate mycoplasma contamination from tissue cultures. They include[1,2,4] heating treatment or the use of specific antisera, chemical compounds or antibiotics such as kanamycin, tetracyclines, tylosin, erythromycin or lyncomycin. Recently gentamicin, a broadspectrum antibiotic derived from *Micromonospora purpurea*, has been reported[5] to be very effective against several species of mycoplasma and to allow elimination of such contaminations. Since many antibiotics are known[6] to induce chromosome aberrations in cell cultures, treatment with gentamicin was now studied for such effects.

Material and methods. The effects of gentamicin were studied on a L-cell strain maintained in our laboratory for electron microscopic and physicochemical studies on L-cell virions. The karyological characteristics of this L-cell strain, published elsewhere[7], can be summarized as follows: the average number of chromosomes is around 60 including 17 non-acrocentric chromosomes. There is no statistically significant correlation between the total number of chromosomes per cell and the number of non-acrocentric chromosomes.

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Structural chromosome aberrations

Observations	Controls	Cultures treated with gentamicin (4 days with 500 µg/ml and 2 × 4 days with 100 µg/l)	Cultures treated with gentamicin (4 days with 500 µg/ml and 5 × 4 days with 100 µg/l)
Cells analyzed	100	100	100
Normal cells	96	93	64
Anomalies			
Chromatid gap	4	5	4
Chromosomic gap	—	—	2
Chromosomic fragment	—	—	24
Dicentric chromosome	—	2	6

The L-cells were maintained in Falcon plastic flasks containing Joklik modified MEM medium with foetal calfserum, routine passages being made every 3 to 4 days. Control cultures were compared with L-cells cultivated in the presence of gentamicin, 500 µg/ml (Schering Corp. Port Reading, N.J.), for 4 days followed by 2 or 5 culture periods with 100 µg/ml of gentamicin. $2^1/_2$ h before termination of the cultures, 1 ml TC chromosome arresting solution (DIFCO) was added per 5 ml of culture medium. After hypotonic treatment with KCl and fixation with methanol acetic acid (3:1), the cell suspensions spread on clean slides were stained with toluidine blue. 100 cells were scored for each treatment.

Results and discussion. Chromosome analysis of the controls (Figure 1a) confirmed the previous observations on the same L-cell strain[7] with respect to the total number of chromosomes per cell and the proportion of non-acrocentric chromosomes. 50% of the analyzed cells had 60 chromosomes, 17 acrocentrics being present in more than 65% of the cells. A culture in the presence of

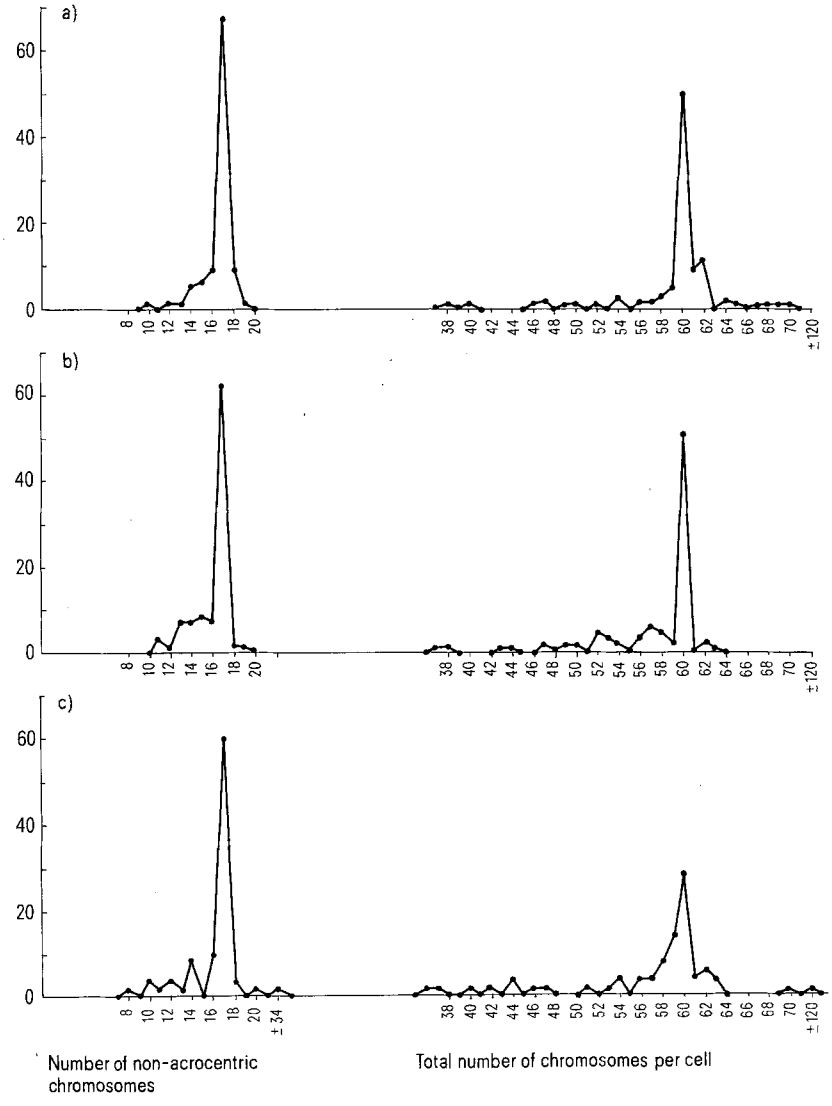

Fig. 1. Distribution of the cells according to the total number of chromosomes per cell and to the number of acrocentric chromosomes. a) Control cultures. b) Cultures treated 4 days with gentamicin 500 µg/ml followed by two passages with 100 µg/ml. c) Cultures treated 4 days with gentamicin 500 µg/ml followed by five passages with 100 µg/ml.

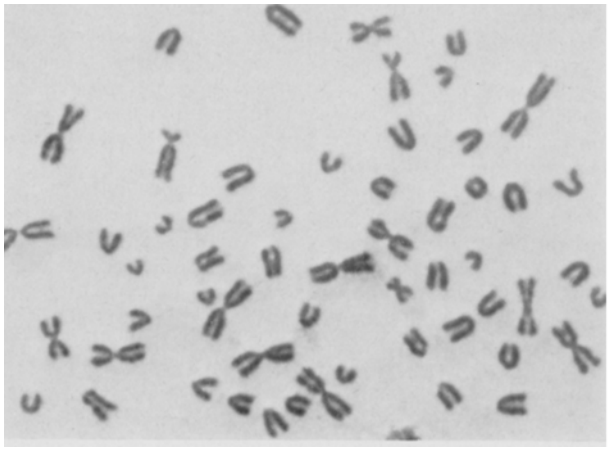

Fig. 2. L-cell with a total of 60 chromosomes and 17 non-acrocentric chromosomes.

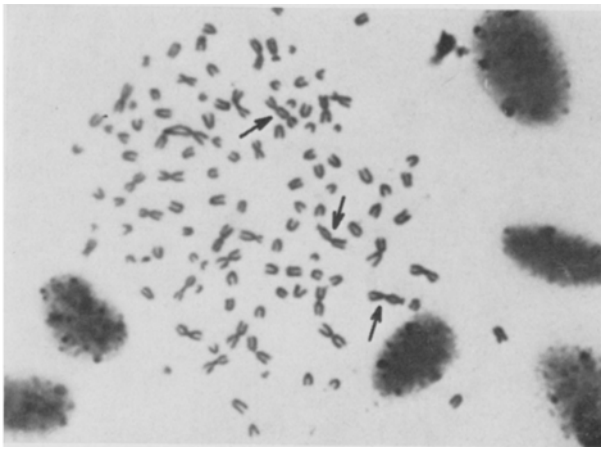

Fig. 3. Paratetraploid L-cell with dicentric chromosomes (arrows).

gentamicin, 500 µg/ml, followed by two passges with 100 µg/ml, did not induce obvious changes in the numerical characteristics of the L-cell chromosomes. When an initial treatment with 500 µg/ml gentamicin was followed by five passages with 100 µg/ml, the proportion of cells showing 60 chromosomes fell to less than 30% (Figure 1, b and c).

Duration of treatment with gentamicin also affected chromosome structure. Whereas only 4 chromatid gaps were observed in the controls, severe aberrations such as chromosome fragments and dicentrics were frequent in L-cells (Table) maintained during five passages in the presence of gentamicin 100 µg/ml (Figure 2). It should also be pointed out that such treatment decreased significantly the mitotic index. The effect of only two passages in the presence of gentamicin appeared to give an intermediate effect.

Several antibiotics such as mitomycin[8], streptonigrin[9], patulin[10], phleomycin[11] and daunomycin[12–14] have been reported to induce chromosome aberrations in cultured cells and especially in human leukocytes. Since, as shown in this paper, gentamicin has similar effects, it appears mandatory to control permanently the different characteristics of the cell strains used for experimental purposes.

Résumé. Les effets de la gentamicine ont été étudié sur des cellules de la lignée L. Une culture en présence de gentamicine à la dose de 500 µg/ml suivie de 5 passages à des concentrations de 100 µg/ml diminue jusqu'à 30% le nombre de cellules possédant 60 chromosomes et entraîne l'apparition d'anomalies chromosomiques telles que des fragments et des dicentriques. Lorsque la culture initiale est suivie de 2 passages seulement à 100 µg/ml on n'observe aucun changement numérique mais un taux intermédiaire d'anomalies de structure.

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The Calorigenic Action of Norepinephrine in Rats After Hypophysectomy

Starting from distinct age-dependent effects of catecholamines on oxygen consumption in rats[1–4], it was supposed that growth hormone influences the calorigenic effects of sympathicomimetics.

Preceding investigations in rats revealed that 5 days after hypophysectomy the effect of norepinephrine on oxygen consumption was abolished, whereas the action of 2,4 DNP was hardly changed[5]. The question arose whether the intact hypophysis or only the presence of pituitary hormones are necessary for the calorigenic effects of norepinephrine.

Therefore investigations were carried out shortly after hypophysectomy, when pituitary hormones are still

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