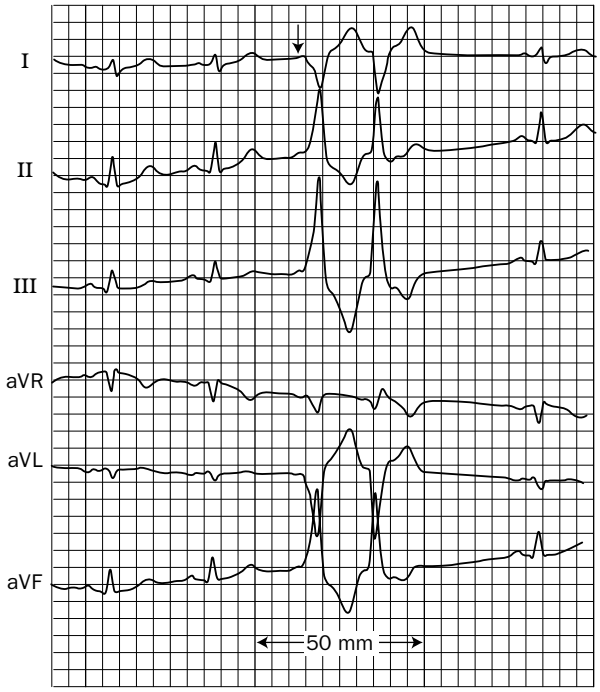

ECG done 3 days after seventh prophylactic dose of mefloquine
Supraventricular beat (indicated by arrow) aberrantly conducted through the ventricles is followed by an aberrantly conducted premature echobeat. Paper speed 50 mm/s.

(5·3 μmol/L) determined 3 days after the last dose were within the lower range of reported steady-state concentrations during prophylaxis.[5] The patient was advised to avoid mefloquine. Serum concentrations of mefloquine and of its metabolite evolved in an expected manner to 0·7 μmol/L and 5·5 μmol/L after 1 week and decreased to less than 0·25 μmol/L (below limit of determination) and 1·4 μmol/L, respectively, 7 weeks later. The patient was repeatedly examined for 6 months after the initial episode including stress ECG and 24 h Holter monitoring. All control ECGs and stress tests were normal except for a relatively short PQ interval (≤0·12 s) and some supraventricular premature beats, the frequency of these decreasing over the first 3 weeks after discontinuation of mefloquine. The patient has not experienced palpitations or other cardiac symptoms since.

The ECG abnormalities, which we assume were caused by mefloquine, have not been described in relation to this drug so far. The short PQ intervals persisting after discontinuation of mefloquine may be related to a hitherto symptom-free Lown-Ganong-Levine syndrome. It is possible that mefloquine triggered aberrant atrioventricular conduction along additional pathways.

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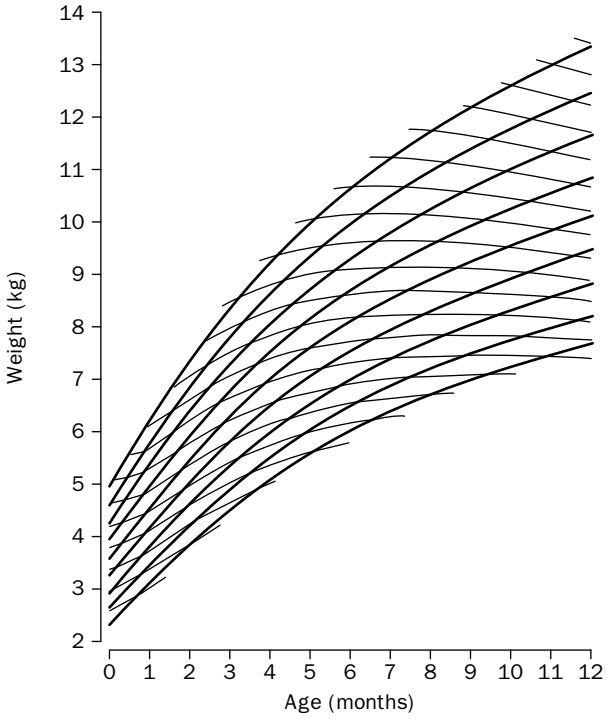
3-in-1 weight-monitoring chart

Tim J Cole

The growth charts used worldwide to measure infant weight do not quantify centile crossing and so cannot monitor weight gain. Velocity charts are impractical as they involve two charts, not one, and weight velocity has to be calculated for each pair of measurements. They also fail to adjust for regression to the mean,[1,2] which requires a conditional reference—underweight infants tend to catch up towards median weight, while relatively heavy infants catch down. On average, a lower weight centile implies a higher weight velocity. Here a new growth chart is described, designed for 4-week measurement intervals, which combines distance, velocity, and conditional references in one. It consists of conventional weight centiles augmented with extra lines called thrive lines, where the slope defines a cut-off for failure to thrive.[1]

Variability in the change in weight standard deviation score (SDS) over time depends only on the correlation between the two measurements, which in turn depends on age.[2] The fifth centile of weight gain is calculated for a series of weight SDSs 4 weeks apart, say SDS_1 and SDS_2, with correlation r, related as follows:[3] $SDS_2 = r\,SDS_1 - 1{\cdot}645\sqrt{1-r^2}$. $-1{\cdot}645$ is the fifth centile normal equivalent deviate. The correlations are based on 223 Cambridge infants measured 4-weekly.[4] The weights SDS_1 and SDS_2 are plotted on the chart, and the slope of the thrive line joining them defines the fifth weight gain centile. Several thrive lines are needed to cover the first year. The chart for British male infants (figure) has nine weight centiles,[5] and the thrive lines cross the centiles downwards. They are steepest at 4 weeks, after birthweight is regained, then flatten off around 6 months before becoming negative. They are also steeper on lower weight centiles, indicating



Infant weight monitoring chart for Cambridge, UK, boys
The nine centiles (in bold) are augmented with thrive lines, whose slopes depend on age and weight centile. The slope of the thrive line defines the fifth centile of weight gain over a 4-week period. Chart for British girls available through the Child Growth Foundation, 2 Mayfield Avenue, London W4 1PW, UK.

the effect of regression to the mean. To use the chart, plot the child's weight, join it to the previous weight 4 weeks earlier, then compare the slope of this line with the slope of the nearest thrive line. If the child's slope is the smaller, then weight gain is below the fifth centile.

The chart's main weakness is that measurements need to be 4 weeks apart, which is often unrealistic. However, if interpreted correctly, the chart is robust to a range of measurement intervals. Over 2–3 weeks weight gain is more variable, so that more than 5% of infants will appear to grow slowly. For periods longer than 4 weeks the opposite holds, with fewer than 5% identified. Over an 8-week interval (two 4-week intervals side-by-side) the chance of failing to thrive is 0·25% (5% of 5%), so growing parallel to a thrive line for 2 months or more is rare and serious. The 5% cut-off is conservative, and not a firm definition of growth failure. Data of poorer quality than the original research study[4] will increase the pick-up rate above 5%. The chart's sensitivity and specificity under field conditions need to be assessed.

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Hepatoblastoma in a 2-year-old child of a liver-transplanted mother

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Successful pregnancies after liver transplantation have been reported.[1,2] These pregnancies were often complicated by hypertension, premature delivery, and growth retardation of the fetus. The long-term outcome of the children is not yet known. We report hepatoblastoma in a 2-year-old child of a woman who underwent liver transplantation 13 months before pregnancy.

A 33-year-old Turkish woman underwent liver transplantation for cirrhosis. She was positive for anti-HBc and negative for all other markers of hepatitis B infection at the time of transplantation and thereafter. She became pregnant 13 months after transplantation. Immunosuppression, consisting of ciclosporin (320 mg daily, trough concentrations 150–220 mg/mL) and prednisolone (5 mg daily), was maintained throughout pregnancy. At 29 weeks' gestation, caesarean section was done because of signs of toxaemia and severe fetal distress. The 590 g boy was severely growth retarded. His neonatal course was complicated by cholestasis, hypoglycaemia, and mild bronchopulmonary dysplasia. Laboratory evaluation for endocrine, metabolic, and infectious disease yielded negative results. In spite of the complicated neonatal course the boy's neurodevelopmental status was normal and he showed good catch-up growth up to the age of 2 years and 6 months when he presented with a large hepatoblastoma of the left lobe of the liver. He was treated with systemic chemotherapy, followed by surgical resection of residual tumour masses. Tissue specimens of the resected tumour were HLA-typed and compared with normal organ tissue as described.[3] Differences or a loss of HLA-allele expression in the tumour tissue could not be detected. The HLA-allele expression of hepatoblastoma tissue and normal liver tissue were identical to the child's HLA-characteristic (HLA-A1/25, B8/44) and different from those of the mother (HLA-A2/25, B51/44), and her liver graft (HLA-A2/3, B 14/35).

To our knowledge this is the first case of malignancy in a child of a mother who became pregnant after solid-organ transplantation. The question arises whether hepatoblastoma occurred by chance in this child or whether there is any causal relation to the history. Several factors may be discussed. First, immunosuppressive therapy throughout fetal life may be a cause of tumour development in the child. Tumour development is reported to be increased after long-term immunosuppressive therapy in transplanted patients and it may also be increased after exposure during fetal life. Up to now no data exist on teratogenicity of ciclosporin but experience is limited. Second, could there be an unknown genetic disease of mother and child leading to cirrhosis in one and hepatoblastoma in the other? Third, could there be a relation between hepatitis B infection and tumour development? Since the child remained negative for all markers of hepatitis B infection, this seems unlikely. Whether hepatoblastoma was caused by any of these factors remains unsolved, but our case indicates that long-term follow-up programmes are necessary for all children born to transplant recipients to define their risk of later health problems and to recognise these problems early.

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Multidrug-resistance to dapsone, rifampicin, and ofloxacin in *Mycobacterium leprae*

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Drug resistance in *Mycobacterium leprae* was reported in 1964 for dapsone and in 1976 for rifampicin, both successively used as monotherapy for leprosy.[1] To prevent drug resistance resulting from the selection of resistant mutants present in multibacillary leprosy, WHO recommended multidrug therapy (MDT) regimens in 1981. Ofloxacin, a fluoroquinolone which is bactericidal against *M leprae*,[2] has been proposed for new MDT combinations. Acquired resistance to fluoroquinolones, commonly observed for many bacterial species, has been also reported in *M tuberculosis* for patients with cavitary tuberculosis treated with ofloxacin monotherapy.[3] So far, no resistance to fluoroquinolones has been reported in *M leprae*.

A 35-year-old man was admitted to hospital in 1991 at the Institut Marchoux (Bamako, Mali) for lepromatous leprosy already treated with dapsone alone for 12 years. Because he was living in a rural area where WHO-MDT