Microwaves improve chromosome G-banding in fresh blood and bone marrow

F Solé, S Woessner

Abstract
A simple technique for obtaining good chromosomal G-banding on fresh blood and bone marrow is presented. The usual technique is modified by using a microwave oven before staining the preparations with Wright's stain.

Methods
The slides were placed immediately, or at most one to two hours after being made, in a microwave oven which was programmed at the highest intensity for five minutes. Afterwards the slides were stained for three minutes with Wright's stain according to the method of Yunis' diluted 1 in 3 in Sorensen buffer.

We also tested specimens as we normally do in the laboratory (waiting at least three or four days), and stained the preparations before putting them into the microwave oven the same day as they were prepared.

We checked the slides made from more than 100 bone marrow samples, and from more than 25 peripheral blood samples from patients with chronic lymphoproliferative disorders and also from amniotic fluid. In most of these samples we obtained equally good quality bands in the older preparations as in the preparations placed in the microwave. But the slides stained directly did not show bands or the bands were of poor resolution.

The figure is an example of the technical quality accomplished. It shows a karyotype from the peripheral blood of a patient with chronic lymphocytic leukaemia with a satisfactory banding resolution, the tiny inversion on the long arm of chromosome 10 being easily detected.

Conclusion
This simple modification can produce satisfactory chromosome banding on fresh samples rapidly making clinically useful results quicker to obtain.

1 Boon ME, Kok LP In: The art of microscopic visualization. In: The microwave cookbook of pathology. Leyden: Coulomb Press, 1980
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