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ABSTRACT

A prospective test for human tumour rejection antigens?

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The lack of a test to measure reliably the presence or absence of tumour-associated rejection antigens in humans recently prompted Prehn (1977) to suggest a different type of bioassay. It has become increasingly apparent that allogeneic or xenogeneic tumours do not, in general, grow as well when transplanted into athymic nude mice as when transplanted into the strain of origin. This is so in spite of the fact that the strain of origin possesses a normal immunological mechanism while the nude mouse cannot reject an allograft of normal tissue. Prehn and Outzen (1977) have demonstrated that allogeneic and animal tumours grow better in nude mice if the animals are X-irradiated. It is probable that X-irradiation would also facilitate the growth of human tumours in nude mice.

The possible test for rejection antigens in human tumours, the so-called 'antigen recognition test' is based upon the fact that potentiation of the growth of transplanted mouse tumours in X-irradiated mice was seen only when the mouse tumours were demonstrably immunogenic in the strain of origin, that is when they expressed tumour rejection antigen (TRA). The resistance (that is antigen recognition) was not as good as in the strain of origin, but no significant resistance was seen in nude mice to the tumours which were of moderate or weak immunogenicity by conventional criteria in the original strain. Apparently the nude mouse does not recognise allogeneic or xenogeneic antigens—only TRA. Therefore, by analogy, those human tumours that grow better in X-irradiated than in non-X-irradiated nude mice, if such there be, can in Prehn's view be safely presumed to have TRA—a potential which presumably could be directly demonstrated if transplantation experiments were possible in inbred humans.

REFERENCES

- Prehn, L. M. and Outzen, H. C. (1977). Primary tumour immunity in nude mice. *Int. J. Cancer*, **19**, 688
Prehn, R. T. (1977). *Int. J. Cancer*, **20**, 634