

Letter to the Editors

G. R. Daniel

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Dear Sir:

We have recently seen the Abstract numbered 39 in your Abstracts of the Sixth Annual Meeting of the European Society for Medical Oncology, Nice, December 6–8, 1980. In this abstract the authors state that Danazol (Danol) possesses progestogenic activity, and that it also inhibits steroidogenesis. While we realise that in an abstract it is not possible to qualify terms like this completely, nevertheless, we feel that for those who are not fully conversant with the drug, these statements might give a wrong impression of the drug profile.

It has been shown that Danazol has strong affinity for progesterone receptors, but it does not exhibit progesterone like properties. Monitoring of the circulating levels of LH and FSH at regular intervals during menstrual cycle, has shown that the drug lowers the level of FSH, and inhibits the mid-cycle surge of LH. This results in altering the levels of oestrogen and progesterone circulating at various times during the cycle. While this can in a narrow sense be called an inhibition of steroidogenesis, it should be noted that the drug does not affect the synthesis of other steroids such as cortisol.

Yours faithfully,

G. R. Daniel

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Trevor J. Powles and R. C. Coombes

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Dear Sir:

Thank you for asking for our comments regarding the mechanism(s) of action of Danazol. We decided to evaluate Danazol for treatment of metastatic breast cancer because we had found it effective for benign mammary dysplasia in pre menopausal women associated with reduction of plasma LH and FSH levels. We had anticipated a therapeutic effect in pre-menopausal women and were surprised to find a similar response in post menopausal women.

This raised the possibility that therapeutic effect did not depend on reduction in sex steroid synthesis by suppression of gonadotrophin but could be related to direct competition for steroid receptor on the tumour cells, or inhibition of sex steroid synthesis by other means.

It is, therefore, of interest that Danazol has been reported to bind avidly to progesterone and androgen receptors and possesses impeded androgenic and progestogenic properties [1]. It also has been reported to possess a direct inhibitory effect on sex steroidogenesis [2] and any or all of these mechanisms may be involved in danazol induced tumour regression. Until more information regarding mechanism is available, it is appropriate to describe all relevant endocrine functions of this agent.

Yours faithfully,

Trevor J. Powles, B.Sc., Ph.D., M.R.C.P.
R. C. Coombes

References

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- Barbieri RL, Canick JA, Makris A (1977) Danazol inhibits steroidogenesis. Fertil Steril 28: 809–813

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