

Letter to the Editor

Prolactin Receptors (PRL-R) and Breast Cancer

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WE WERE INTERESTED in the commentary of L'Hermite M. on 'Prolactin and Breast Cancer' in the 'Perspectives and Commentaries' Section of the *European Journal of Clinical Oncology*. We would agree with most of the discussion concerning prolactin plasma level. However the statements on prolactin receptors (PRL-R) seem to us unsatisfactory.

The PRL-R positivity rate varies according to the quality of the membrane and radio-ligand preparations; it is however over 19% in most studies (Table 1) [1-12]. In our experience labeled ovine prolactin is not a good detector of PRL-R; the positivity rate when using this marker was 20% in our hands ($n = 25$). In our study of 547 tumors, the positivity rate using hGH was 43% for free PRL-R and 72% for total PRL-R (after 3 M $MgCl_2$ desaturation). Furthermore, by using immuno-histochemical methods Dhady and Walker [13] showed the presence of PRL-R in 56% of cases ($n = 50$). The statement that 'PRL-R are indeed present in about 19% of the cases of breast cancer' seems unlikely to be correct.

In our population of 547 tumors, we studied the prognostic significance of PRL-R (either free or total) on survival and relapse free survival by actuarial and Cox analysis. We found that PRL-R (especially total PRL-R) were good prognostic factors particularly on the relapse-free survival [14]. These results were confirmed later on [15]; they differed from those of Waseda *et al.* [9] who studied a population of 214 patients: in their series, the positivity rate of PRL-R was very low (13%); as the number of PRL-R positive patients was very low, it

seems difficult to draw any definite conclusion from these results which—to our knowledge—have never been confirmed. Furthermore, it has been shown by ourselves and other groups [6, 8, 11] that a relation exists between PRL-R and steroid receptors; it is generally accepted that steroid receptors are good prognostic factors (this was not found by Waseda *et al.*). It is thus difficult to understand that steroid receptors are good prognostic factors whereas PRL-R, which are correlated to steroid receptors, would carry a bad prognosis. High PRL plasma levels could have a prognostic value independently of the concentration of PRL-R.

Table 1. Results of PRL-R determination

	n	Radioligand	Positivity rate (%)
Holdaway and Friesen [1]	41	hPRL	20
Pearson <i>et al.</i> [2]	111	oPRL	51
Di Carlo and Muccioli [3]	83	hPRL	32.5
Partridge and Hähnel [4]	8	oPRL	37.5
Bohnet [5]	24	hPRL	30
		hGH	8
Rae-Venter <i>et al.</i> [6]	55	hPRL	58
Turcot-Lemay and Kelly [7]	759	hPRL	36
		oPRL	13
		hGH	2
Murphy <i>et al.</i> [8]	31	hGH	65
Waseda <i>et al.</i> [9]	214	hGH	13
Ben-David <i>et al.</i> [10]	>300	hPRL	42
Bonneterre <i>et al.</i> [11]	547	hGH	43 (free) 72 (total)
L'Hermite-Baleriaux <i>et al.</i> [12]	199	oPRL	19

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