

## Appendix Two

### Interpretations offered on the macroprolactin positive specimen in support of ‘Macroprolactin(s): composition and reactivity in immunoassays and laboratory interpretation of results of an unusual patient serum’

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Table 1 *Interpretations offered on the patient specimen exhibiting two peaks of macroprolactin*

Lab	Method	Prolactin (mIU/L)	Results of other tests performed	Other investigations suggested but not performed	Comments on results
A	Abbott Architect	873	PEG precipitation for macroprolactin. % Recovery of monomeric prolactin=11%. Hyperprolactinaemia has been excluded.	Suggest check of thyroid function. Review lifestyle and alcohol intake, and screening for otheroma and neuropathy advised.	Normal immunoreactive monomeric prolactin level.
B	Abbott Architect	957	PEG precipitation for macroprolactin. Monomeric prolactin=122 mIU/L, approximately 10.3% of total.	Would not suggest further tests, as patient is already in the care of an endocrinologist.	Prolactin tested for macroprolactin: Positive. Macroprolactin is often benign but may be associated with prolactinoma. Suggest consult endocrinologist or gynaecologist.
C	Abbott Architect	988	Recovery of prolactin after precipitation with PEG=15%		Indicates the presence of significant quantities of macroprolactin.
D	Bayer ACS: 180	1604	Prolactin recovery after precipitation with PEG 6000=8.7%	Fasting blood glucose; gamma-GT; TSH; Random cortisol; Send sample to reference laboratory for estimation of bioactive prolactin.	{Assuming that the reference laboratory confirms findings and that bioactive prolactin is in the normal range} Macroprolactin (inactive) detected. Normal level of bioactive prolactin.
E	Bayer ACS: 180	2091	I would not add any tests for the endocrinologist. The endocrinologist would scan this patient's pituitary. Our experience with ACS:180 is that macroprolactin is not a major problem.		

Table 1 *Continued*

Lab	Method	Prolactin (mIU/L)	Results of other tests performed	Other investigations suggested but not performed	Comments on results
F	Bayer ACS:180	2112		Macroprolactin screen	
G	Bayer ADVIA Centaur	1919		Check for hooking; macroprolactin; TSH	{Comment made only if no hooking, negative for macroprolactin and normal TFTs}: Please list all drugs as many have been reported to cause hyperprolactinaemia.
H	Bayer ADVIA Centaur	2072	Insufficient sample to check for macroprolactin.	Cortisol, SHBG, TFT, random glucose	Hypopituitary not excluded from these results.
I	Bayer Immuno-1	1398	{Insufficient sample}	Macroprolactin	n/a {pending macroprolactin result}
J	Beckman Access	777		Macroprolactin (assay sent away, hence no result)	Assume 'other' lab's FSH/LH/Testo are normal.
K	Beckman Access	839	LH=6.0 U/L; FSH=9.2 U/L; E2=73 pmol/L	Testosterone {Insufficient sample}	Previous raised prolactin may have been related to antipsychotic medication, which was stopped. If patient not on medication, the difference may be due to macroprolactin, which has only slight effect on Beckman Access assay.
L	DPC IMMULITE 2000	683	531 mIU/L after PEG precipitation	SHBG, TSH, free T4	Mild rise of prolactin. Macroprolactin present.
M	DPC IMMULITE 2000	712			? Stress or medication related. Suggest repeat if still concerned about patient.
N	DPC IMMULITE 2000	794		Would send for cortisol, GH & TSH, ACE, chest X-ray, head CT scan.	Need to rule out pituitary/hypothalamic tumour.
O	Roche E170	1574	Macroprolactin positive. Estimated monomeric prolactin=215 mIU/L		Sample contains mostly macroprolactin but the usual circulating form (monomeric prolactin) is in the normal range.
P	Roche E170	1607	Recovery after PEG precipitation=10.9%	Measure blood pressure and plasma glucose. Check drug history.	Raised prolactin. Recovery after PEG precipitation suggests this is composed mainly of macroprolactin, of doubtful clinical significance.
Q	Wallac DELFIA	752	PEG precipitation for macroprolactin.		
R	Wallac DELFIA	788	TSH=2.8 mU/L, FT4=13.5 pmol/L	Macroprolactin (insufficient sample)	Significant improvement in prolactin compared to previous reported result. Query change in drug therapy (e.g. withdrawal of

Table 1 *Continued*

Lab	Method	Prolactin (mIU/L)	Results of other tests performed	Other investigations suggested but not performed	Comments on results
					antipsychotic or SSRI)? Query presence of 'macroprolactin' – detected more by some laboratory's methods than by others. Insufficient sample to screen for this on this occasion; please send a repeat sample.

This table gives the full responses from the eighteen laboratories that offered an interpretation of their results obtained on the patient specimen exhibiting two peaks of macroprolactin (MPRL 1 and MPRL 2).