

**Supplemental Table 1. Adjunctive aripiprazole for antipsychotic-related hyperprolactinemia: GRADE analyses**

Primary/secondary outcome	Studies (N)	Risk of bias	Inconsistency	Indirectness	Imprecision	Publication bias	Large effect	Overall quality of evidence <sup>a</sup>
Prolactin level in all patients (ng/mL)	5 (385)	Serious <sup>b</sup>	Serious <sup>c</sup>	No	No	Serious <sup>d</sup>	Large <sup>e</sup>	+/-/-/-; Low
Prolactin level in females (ng/mL)	2 (186)	Serious <sup>b</sup>	No	No	No	Serious <sup>d</sup>	Large <sup>e</sup>	+/+/-/-; Moderate
Prolactin level in males (ng/mL)	2 (127)	Serious <sup>b</sup>	Serious <sup>c</sup>	No	No	Serious <sup>d</sup>	Large <sup>e</sup>	+/-/-/-; Low
Total psychopathology	5 (385)	Serious <sup>b</sup>	No	No	No	Serious <sup>d</sup>	No	+/-/-/-; Low
PANSS positive symptoms	3 (213)	Serious <sup>b</sup>	Serious <sup>c</sup>	No	No	Serious <sup>d</sup>	No	+/-/-/-; Very low
PANSS negative symptoms	3 (213)	Serious <sup>b</sup>	No	No	No	Serious <sup>d</sup>	No	+/-/-/-; Low
All caused discontinuation	2 (180)	No	No	No	No	Serious <sup>d</sup>	No	+/+/-/-; Moderate
Any extrapyramidal symptoms	2 (172)	No	No	No	No	Serious <sup>d</sup>	No	+/+/-/-; Moderate

GRADE = grading of recommendations assessment, development, and evaluation; PANSS = the Positive and Negative Syndrome Scale.

<sup>a</sup>GRADE Working Group grades of evidence: High quality=further research is very unlikely to change our confidence in the estimate of effect. Moderate quality=further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate. Low quality=further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate. Very low quality=we are very uncertain about the estimate.

<sup>b</sup>More than 50% studies reported as having a serious bias used an open-label method, only mentioned random allocation without describing the method and withdrawal from the study.

<sup>c</sup>All studies reported as having a serious inconsistency had  $I^2 > 50\%$ .

<sup>d</sup>For continuous outcomes,  $N < 400$ ; For dichotomous outcomes,  $N < 300$  following the methodology of a previous study<sup>[1]</sup>.

<sup>e</sup>Studies with large effects provided increased quality of evidence. Large effects=standard mean differences  $< -0.8$ .

[1] Bo Q J , Wang Z M , Li X B , et al. Adjunctive metformin for antipsychotic-induced hyperprolactinemia: A systematic review[J]. Psychiatry Res, 2016, 237:257-263.

Supplemental Figure 1: Risk of bias

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel	assessment (Symptom reduction, response)	Incomplete outcome data addressed (attrition bias)	Selective reporting (reporting bias)	Other sources of bias
Chen et al., 2009	+	?	+	?	+	+	?
Chen et al., 2012	?	-	-	-	?	+	?
Ren and Hu 2011	+	?	+	?	+	-	?
Sha et al., 2017	+	-	-	-	+	+	?
Zhou et al., 2014	?	-	-	-	+	+	?

+ : Low risk of bias, - : High risk of bias, ? : Unclear risk of bias, nd : not determined

**Supplemental Figure 2:** forest plot for all caused discontinuation and adverse drug reactions

