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The Authors' Reply

We thank Dr Jacob for his letter and agree that additional commentary is warranted to explain our statement that orlisat has "…inconsistent effects on blood pressure and may benefit only patients who have uncontrolled or non-medicated hypertension". Furthermore, we appreciate the relevant information provided by Dr Jacob from the XENical in the prevention of Diabetes in Obese Subjects (XENDOS) study, which assessed normotensive and hypertensive obese patients but was not included in our review as it was just recently published.[1]

To provide a broader perspective on the effects of orlistat therapy on blood pressure (BP), we assessed all randomised, controlled trials of at least 12 months' duration (table I). These studies included obese subjects who were normotensive or hypertensive,[1-11] or only obese subjects with poorly controlled hypertension.[12] If one excludes the XENDOS study,[1] orlistat therapy was associated with a statistically significant reduction in systolic or diastolic BP in two studies,[3,12] but with no statistically significant effect in seven other studies that assessed the effects of orlistat therapy on BP.[2,4-6,9-11] It is possible that a lack of an observed effect of orlistat on BP may have been because smaller studies were underpowered to detect such an effect. The XENDOS study was about four times larger than the next largest study[3] and this might have explained, in part, the statistically significant decrease in BP with orlistat therapy in both normotensive and hypertensive obese patients. On the basis of these considerations, the comments by Dr Jacob and the

Table I. Effect of weight loss with orlistat therapy on blood pressure (BP)

Study (year)	Duration of treatment (months)	Number of patients	Intervention	Baseline weight (kg)	Change in weight (kg)[a]	Change in systolic BP (mm Hg)[a]	Change in diastolic BP (mm Hg)[a]
Torgerson et al.[1]	48	3305 with NGT	Diet + placebo	110.6	−3.0	−3.4	−1.9
(2004)		or IGT	Diet + orlistat 120mg tid	110.4	−5.8	−4.9*	−2.6*
Sjostrom et al.[2]	12	686	Diet + placebo	99.8	−6.1	−2.0	−1.2
(1998)			Diet + orlistat 120mg tid	99.1	−10.0	−4.0	−2.1
Davidson et al.[3]	24	880	Diet + placebo	100.6	−4.5	+1.0	+1.3
(1999)			Diet + orlistat 120mg tid	100.7	−7.6	−0.8*	−0.8*
Lindgarde[4]	12	376 patients with	Diet + placebo	95.9	−4.3	−4.1	−2.9
(2000)		risk factors for CAD	Diet + orlistat 120mg tid	96.1	−5.6	−4.9	−2.5
Rossner et al.[5]	24	718	Diet + placebo	97.7	−4.3	−5.1	−2.7
(2000)			Diet + orlistat 120mg tid	96.7	−7.4	−6.1	−2.6
Hauptman et al.[6]	24	422	Diet + placebo	101.8	−1.7	+3	+1
(2000)			Diet + orlistat 120mg tid	100.5	−5.0	0	−1
Finer et al.[7]	12	228	Diet + placebo	98.4	1.3	NA	NA
(2000)			Diet + orlistat 120mg tid	97.9	3.3	NA	NA
Hollander et al.[8]	12	391 patients with	Diet + placebo	99.7	−4.3	NA	NA
(1998)		type 2 DM	Diet + orlistat 120mg tid	99.6	−6.2	NA	NA
Kelley et al.[9]	12	535 patients with	Diet + placebo	101.8	−1.3	−0.9	−2.9
(2002)		type 2 DM	Diet + orlistat 120mg tid	102.0	−3.9	−1.1	−2.3
Miles et al.[10]	12	503 patients with	Diet + placebo	101.1	−1.8	−0.3	NA
(2002)		type 2 DM	Orlistat 120mg tid	102.1	−4.7	−2.1*	NA
Broom et al.[11]	12	531	Diet + placebo	101.8	−2.3	NA	−7.2
(2002)			Diet + orlistat 120mg tid	100.9	−5.8	NA	−10.2
Bakris et al.[12]	12	532 patients with	Diet + placebo	101.5	−2.7	−11.0	−9.2
(2002)		hypertension	Diet + orlistat 120mg tid	101.2	−5.4	−13.3	−11.4*

a Change from baseline.

CAD = coronary artery disease; **DM** = diabetes mellitus; **IGT** = impaired glucose tolerance; **NA** = not applicable; **NGT** = nondiabetic glucose tolerance; **tid** = three times daily; * indicates statistically significant compared with placebo.

findings from our review[13] are, perhaps, not inconsistent.

A broader issue may not be whether orlistat therapy is associated with a statistically significant reduction in BP but, rather, whether the weight loss conferred by orlistat therapy is sufficient to provide clinically meaningful reductions in BP. Although orlistat therapy in obese patients with hypertension is associated with reductions in systolic and diastolic pressure of up to 13.3 and 11.4mm Hg, respectively,[12] in patients with poorly controlled hypertension such BP lowering may not be sufficient to attain currently recommended BP targets of <140/90mm Hg and the stricter target of <130/80mm Hg in patients with diabetes mellitus or chronic renal disease.[14,15] Given that baseline BP in obese patients with poorly controlled hypertension is, on average, about 150/100mm Hg,[12] the addition of antihypertensive drug therapy is likely to be required in many patients to attain the currently recommended therapeutic goals.

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