Table 2 Summary of findings of systematic review of studies comparing antibiotic treatment with no antibiotics for the outcome development of haemolytic uraemic syndrome¹

Median % of patients with syndrome (range)	Total No of patients *	Risk of haemolytic uraemic syndrome		Quality of studies	Importance
		Relative (95% CI)	Absolute (range)		
13 (12-14)	688	1.15 (0.79 to 1.68)	2 cases/100 treated (7 to -2)	Low	High

*In cohort studies.

controlled trials, were overall of low quality. The confidence interval around the pooled odds ratio for development of haemolytic uraemic syndrome with antibiotics included 1, indicating no clear effect of antibiotics. The width of the confidence interval is consistent with either moderate harm or moderate benefit.

Apply the answer

The combination of uncertainties in this case is important. Our patient was not in the typical age range, she did not have the typical haematological picture for *E coli* haemolytic uraemic syndrome, and she was critically ill. Various other organisms can produce haemolytic uraemic syndrome as part of a septic illness.⁴ The clinical balance was between leaving untreated (for example) pneumococcal sepsis and worsening an *E coli* 0157:H7 enteritis by giving antibiotics. The evidence we found highlighted the paucity of clinical evidence indicating harm from treating children with *E coli* enteritis compared with the overwhelming clinical experience regarding the use of antibiotics in sepsis.⁵ We concluded that the perceived benefit of treating sepsis in this complex atypical patient outweighed the potential harm if *E coli* 0157:H7 enteritis was the underlying problem. If the child had presented with the typical picture of haemolytic uraemic syndrome the lack of benefits of antibiotics would have swayed us against using them

Assess the outcome

Our patient deteriorated after admission to intensive care and required ventilation for a low conscious level. She was treated with broad spectrum antibiotics. Two days later serology indicated an *E coli* 0157:H7 infection, which was subsequently confirmed from stool samples. Antibiotics did not seem to worsen her haemolysis or her acute renal impairment. In total, she was anuric for 6 days and required dialysis for 10 days. At her six week outpatient review she was normotensive with a serum creatinine concentration of 56 $\mu\text{mol/l}$ and persistent proteinuria. Ongoing proteinuria and evidence of renal impairment after a year would put her into higher risk group for long term renal complications, and she remains under renal review.

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Competing interests: BP is a member of the GRADE Working Group and is working to promote its use in applying evidence in clinical practice. He will not gain financially from its promotion or use.

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Kieran Walsh *editorial registrar, BMJ Learning*
(bmjlearning@bmjgroup.com)

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- 2 Suresh K: Tips on: effective reading. *BMJ Careers* 2002;324:7. (<http://careerfocus.bmjournals.com/cgi/content/full/324/7328/S7a>)