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Long-Term Effects of Omitting Antibiotics in Uncomplicated Acute Diverticulitis

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Abstract

Background

Traditionally uncomplicated acute diverticulitis was routinely treated with antibiotics, although evidence for this strategy was lacking. Recently, two randomized clinical trials (AVOD trial and DIABOLO trial) published short-term results of omitting antibiotics compared to routine antibiotic treatment. Both showed no significant differences regarding recovery from the initial episode, as well as rates of complicated or recurrent diverticulitis and sigmoid resection. However, both studies showed a trend of higher rates of sigmoid resection in the observational groups. Here, the long-term effects of omitting antibiotics in first episode uncomplicated acute diverticulitis were assessed.

Methods

A total of 528 patients with CT-proven, primary, left-sided, uncomplicated acute diverticulitis were randomized to either an observational or an antibiotic treatment strategy (DIABOLO trial). Outcome measures were

complicated diverticulitis, recurrent diverticulitis and sigmoid resection at 24 months' follow up. Differences between the groups were explored and risk factors were identified using multivariable logistic regression.

Results

Complete case analyses showed no difference in rates of recurrent diverticulitis (15.4% in the observational group versus 14.9% in the antibiotic group; $p = 0.885$), complicated diverticulitis (4.8% versus 3.3%; $p = 0.403$) and sigmoid resection (9.0% versus 5.0%; $p = 0.085$). Young patients (<50 years) and patients with a pain score at presentation of 8 or higher on a visual analogue pain scale were at risk for complicated or recurrent diverticulitis. In this multivariable analysis, treatment type (with or without antibiotics) was not an independent predictor for complicated or recurrent diverticulitis.

Conclusion

Omitting antibiotics in the treatment of uncomplicated acute diverticulitis did not result in more complicated diverticulitis, recurrent diverticulitis or sigmoid resections at long-term follow up. As the DIABOLO trial was not powered for these secondary outcome measures, some uncertainty remains whether (small) non-significant differences could be true associations.

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Specific author contributions

S.T.v.D. contributed to the design and analysis of data for the work; S.T.v.D., L.D., C.U., N. de K., S.v.D., H.B.S., B.C.V., E.C.C., J.A.v.d.H., Q.A.E., I.F.F., W.A.B., M.G.D. and M.A.B. contributed to the interpretation of data for the work; SvD drafted the work; L.D., C.U., N. de K., S.v.D., H.B.S., B.C.V., E.C.C., J.A.v.d.H., Q.A.E., I.F.F., W.A.B., M.G.D. and M.A.B. revised the work critically. All authors approved the version to be published.

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Potential competing interest

None.

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Electronic supplementary material

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