Review article: gastrointestinal angiodysplasia – pathogenesis, diagnosis and management
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**CRD summary**
This review concluded that argon plasma coagulation was the most cost-effective endoscopic therapy for gastrointestinal angiodysplasia, while drugs like thalidomide and octreotide could be the second therapy for some patients. The evidence to support these conclusions was not consistently reported and their reliability remains unclear.

**Authors' objectives**
To review the diagnosis and treatment of gastrointestinal angiodysplasia. [The paper explored the pathogenesis and risk factors, but these are not covered here.]

**Searching**
The Cochrane Library, MEDLINE and EMBASE were searched for English-language publications from 1946 to April 2013. Keywords were reported. Reference lists were manually checked.

**Study selection**
Articles in English that were judged to be relevant for epidemiology, pathogenesis, diagnosis, or management of gastrointestinal angiodysplasia were selected.

The included studies for management and treatment were case series or case reports, with some controlled trials. The treatments were endoscopic, transcatheter angiography and intervention, surgery, or pharmacotherapy. Endoscopic therapy was argon plasma coagulation, electrocoagulation, photocoagulation, endoscopic clips, endoscopic ligation, endoscopic resection, or injection therapy. Pharmacological therapy was hormonal treatment, thalidomide, or octreotide.

The number of reviewers who selected studies was not stated.

**Assessment of study quality**
The studies were not assessed for methodological quality.

**Data extraction**
It was unclear which data were extracted.

**Methods of synthesis**
A narrative synthesis was provided, with additional study details in summary tables for hormonal and pharmacological results.

**Results of the review**
The number of studies, trials and systematic reviews that were included was unclear.

**Diagnosis:** Radionuclide scanning, computed tomography angiography, and magnetic resonance and standard angiography were discussed, largely without supporting evidence. The radionuclide scanning accuracy rates were reported to range from 24% to 91% across studies, and standard angiography in patients with overt obscure gastrointestinal bleeding was reported to have lower diagnostic yield (20%) than immediate wire capsule endoscopy (53%; \( p=0.016 \)).

**Endoscopic management:** Argon plasma coagulation was reported to be safe, available, easy to use and effective. Electrocoagulation had complications and lower efficacy than argon plasma coagulation. Laser photocoagulation was effective, but there were concerns about the risk of perforations. Endoscopic ligation could be effective in the short-term, but its long-term efficacy was unclear. Injection sclerotherapy was reported in two studies, but with no efficacy data. Endoscopic clips and endoscopic resection were mentioned in single case reports.
Transcatheter angiography and intervention: This was stated to be appropriate for specific groups of patients only; those with active gastrointestinal bleeding or who were unsuitable for endoscopic surgery. Success rates of 80 to 90% were reported, with complications in 5% to 9% of patients.

Surgery: No data on effectiveness were provided.

Pharmacotherapy: Hormonal therapy (five studies) was shown to be effective in small, retrospective or uncontrolled studies, with less positive results in two larger studies. Thalidomide (one controlled open-label trial, one cohort study, and one case series) reduced the number of bleeding episodes, with increased adverse events. This was recommended only as a treatment option where other therapies were not suitable. Lenalidomide was mentioned, but no studies were reported. Octreotide (a meta-analysis of three cohort studies, with 62 patients; plus two cohort studies, with 26 patients) was reported to be beneficial for patients with recurrent chronic bleeding, with no serious adverse events.

Authors' conclusions
Argon plasma coagulation was the most cost-effective endoscopic therapy, while drugs like thalidomide and octreotide could be the second therapy for a selected group of patients after careful consideration of the benefit-to-risk ratio. Transcatheter angiography with or without intervention was effective in the management of patients with severe bleeding.

CRD commentary
This review addressed several broad topics without suitable inclusion criteria. The search was limited to three databases and restricted to English-language publications. It was unclear how many studies were considered for each heading, and a mixture of designs, including case reports, case series, cohort studies and open-label trials, was mentioned alongside previous meta-analyses.

Insufficient details were reported to allow the assessment of reliability or quality for the primary studies and the authors did not comment on these issues. The narrative summary was poorly constructed making it difficult to draw comparative conclusions between alternative interventions. Where statements of efficacy were made, these were not clearly based on the evidence presented and there seemed to be relatively little emphasis placed on the potential adverse effects.

It is unclear if the authors' strong conclusions are supported by the available evidence and a rigorous systematic review of the evidence is required.

Implications of the review for practice and research
Practice: The authors stated that the treatment for angiodysplasia should be decided on a patient-by-patient basis.

Research: The authors stated that further research was needed to better understand the pathogenesis of angiodysplasia and to identify potential therapeutic targets.

Funding
Not explicitly stated.

Bibliographic details

PubMedID
24138285

DOI
10.1111/apt.12527

Indexing Status
Subject indexing assigned by NLM
MeSH
Angiodysplasia /diagnosis /epidemiology /etiology /therapy; Electrocoagulation; Gastrointestinal Hemorrhage /diagnosis /epidemiology /etiology /therapy; Humans; Octreotide /therapeutic use; Thalidomide /therapeutic use

AccessionNumber
12013062570

Date bibliographic record published
11/11/2013

Date abstract record published
03/02/2014

Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.