**SUPPLEMENTARY MATERIALS**

**Search Strategy**

A comprehensive search of several databases from each database’s inception to April 4th, 2018, English and Spanish languages was conducted. The databases included Ovid Epub Ahead of Print, Medline In-Process & Other Non-Indexed Citations, Ovid MEDLINE, Ovid EMBASE, Ovid Cochrane Central Register of Controlled Trials, Ovid Cochrane Database of Systematic Reviews, and Scopus. The search strategy was designed and conducted by an experienced librarian with input from the study’s principle investigator. Controlled vocabulary supplemented with keywords was used to search for colonic manifestations of systemic scleroderma. These included but were not limited to “scleroderma,” “systemic sclerosis,” or “CREST syndrome” and “colon disease,” or “gastrointestinal motility.”

Ovid

Database(s): Embase 1988 to 2018 Week 14, EBM Reviews - Cochrane Central Register of Controlled Trials February 2018, EBM Reviews - Cochrane Database of Systematic Reviews 2005 to March 28, 2018, Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present   
Search Strategy:

|  |  |  |
| --- | --- | --- |
| **#** | **Searches** | **Results** |
| 1 | exp Scleroderma, Systemic/ | 41370 |
| 2 | exp scleroderma/ | 33013 |
| 3 | (("calcinosis with raynaud phenomenon esophageal dysfunction sclerodactyly" and telangiectasia\*) or ("calcinosis with raynaud phenomenon esophagus dysfunction sclerodactyly" and telangiectasia\*) or ("calcinosis with raynaud phenomenon oesophageal dysfunction sclerodactyly" and telangiectasia\*) or ("calcinosis with raynaud phenomenon oesophagus dysfunction sclerodactyly" and telangiectasia\*) or "CREST syndrome\*" or dermatoscleros\* or morphea or morphoea or schleroderma\* or sclerema\* or scleroderma\* or sclerodermia\* or "skin scleros\*" or "syndrome CREST" or "systemic scleros\*").ti,ab,hw,kw. | 65012 |
| 4 | 1 or 2 or 3 | 65012 |
| 5 | exp colon disease/ | 438625 |
| 6 | exp Colonic Diseases/ | 670457 |
| 7 | exp Gastrointestinal Hemorrhage/ | 128089 |
| 8 | exp Gastrointestinal Motility/ | 60467 |
| 9 | exp Intestinal Perforation/ | 32548 |
| 10 | exp Intestinal Volvulus/ | 4342 |
| 11 | (((gastrointestinal or gi) adj3 (hemorrhage\* or haemorrhage\* or bleed\*)) or (motility adj3 (disturbanc\* or disorder\*)) or colitides or colitis or colon or colonic or colorectal\* or diverticul\* or hematochezia\* or "Hirschsprung Disease" or "Hirschsprung syndrome\*" or "Hirschsprungs Disease" or "Hirschsprungs syndrome\*" or "large bowel obstruction\*" or megacolon\* or "ogilvie disease" or "ogilvie syndrome\*" or "ogilvies disease" or "ogilvies syndrome\*" or phleboscleros\* or Proctocolit\* or proctosigmoidid\* or proctosigmoidit\* or pseudodiverticul\* or rectocolitid\* or rectocolitis or rectosigmoidid\* or rectosigmoidit\* or sigmoid\*).ti,ab,hw,kw. | 1111175 |
| 12 | or/5-11 | 1245733 |
| 13 | 4 and 12 | 2572 |
| 14 | limit 13 to (english or spanish) [Limit not valid in CDSR; records were retained] | 2274 |
| 15 | limit 14 to (editorial or erratum or note or addresses or autobiography or bibliography or biography or blogs or comment or dictionary or directory or interactive tutorial or interview or lectures or legal cases or legislation or news or newspaper article or overall or patient education handout or periodical index or portraits or published erratum or video-audio media or webcasts) [Limit not valid in Embase,CCTR,CDSR,Ovid MEDLINE(R),Ovid MEDLINE(R) Daily Update,Ovid MEDLINE(R) In-Process,Ovid MEDLINE(R) Publisher; records were retained] | 54 |
| 16 | 14 not 15 | 2220 |
| 17 | remove duplicates from 16 | 1853 |

**Supplementary Table 1: Methodological Criteria for Selection of Case Reports/Series**

|  |  |  |
| --- | --- | --- |
| Domains | Question | Score |
| Selection | 1. Does the patient(s) represent(s) the whole experience of the investigator (center) or is the selection method unclear to the extent that other patients with similar presentation may not have been reported? | 1-3 |
| Ascertainment | 1. Was the exposure (Systemic Scleroderma) adequately diagnosed? 2. Was the outcome adequately diagnosed? | 1-3  1-3 |
| Causality | 1. Were other alternative causes that may explain the exposure ruled out? | 1-3 |
| Reporting | 1. Is the case(s) described with sufficient details to allow other investigators to replicate the research or to allow practitioners to make inferences related to their own practice? | 1-3 |
| TOTAL | **If score <8 🡪 removed**  **If score 8-9 and exposure or outcome is 1 🡪 removed** | **5-15** |

Adapted from Murad MH, Sultan S, Haffar S, Bazerbachi F. “Methodological quality and synthesis of case series and case reports.” BMJ Evid Based Med. 2018 Apr;23(2):60-63.

**Supplementary Table 2: Colonic Volvulus and SSc**



**Supplementary Table 3: Microscopic Colitis and SSc**



**Supplementary Table 4: Ulcerative Colitis and SSc**

**Supplementary Table 5: Megacolon and SSc**



**Supplementary Table 6: Constipation and SSc**



**Supplementary Table 7: Colonic Diverticula and SSc**



**Supplementary Table 8: Colonic Telangiectasia and SSc**



**Supplementary Table 9: Colonic Perforation and SSc**



**Supplementary Table 10: Colonic Obstruction and SSc**



**Supplementary Table 11: Colon Cancer and SSc**



**Supplementary Table 12: Other Colonic Manifestations**

