DIVERTICULA OF THE RIGHT COLON:
Report of 8 Cases

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Summary

Diverticula limited to the caecum and ascending colon occur infrequently. In a survey of 5094 barium studies and 80 post-mortems there were 8 cases with diverticula limited to the right colon. The cases are presented and the relevant literature reviewed.

Introduction

Diverticula of the caecum and ascending colon are relatively infrequent and are often solitary. Several cases of right-sided diverticula have been described since the first case involving the caecum was reported by Potier (1912). Most are cases of caecal diverticula and only 33 cases of diverticula of the ascending colon have been found reported in the literature (Table 1). However, many of the reported cases of right-sided diverticula, although anatomically involving the ascending colon above the level of the ileocaecal valve are referred to as diverticula of the caecum (Table 2).

In a survey on the incidence of diverticular disease in Malta based on radiology and necropsy studies, 8 cases of diverticula limited to the right colon were found from a total of 5094 barium studies and 80 post-mortem investigations. Three cases had solitary diverticula of the caecum, three a solitary diverticulum of the ascending colon and 2 multiple diverticula of the ascending colon. Only 1 case was associated with clinical symptoms.

Case Reports

Case 1. — A 73 year old female presented with fairly severe painless melaena in 1959. Radiological investigations, lapa-

TABLE 1

Reported Cses of Diverticula Limited to the Ascending Colon

Author		Age and Sex of patient
Geist	(1933)	F 48
Stetten	(1936)	F 35
Visconti	(1936)	M 10
Bearse	(1939)	F 19
Carroll	(1943)	F 56
Fairbank and Rob	(1947)	F 50
		M 38
Shaw and Seigler	(1950)	F 42
Bosworth and Landau	(1951)	F 56
Reid	(1951)	F 70
Vaughn and Narsete	(1953)	M 50
		F 67
Inglis and Hampson	(1959)	F 55
		M 54
		F 36
		F 25
		F 37
Daniels and Wood	(1960)	M 39
Lloyd Williams	(1960)	M 53
		F 53
Miangolarra	(1961)	M 55
		M 47
		M 57
		M 59
		F 77
		M 68
		M 56
		M 58
		F 54
		F 73
Wagner and Zollinger	(1961)	F 41
		F 41
		F 60

TABLE 2

Reported Cases of Diverticula Limited to Ascending Colon Referred to as Caecal

Author		age and sex of patient
Leonardo	(1930)	F 63
Bennett-Jones	(1937)	F 28
Baker and Carlile	(1943)	M 34
Schnug	(1943)	M 30
Levine	(1939)	M 31
Collins	(1950)	M 68
		F 26
Costin and Gaston	(1950)	F 67
Kron and Spencer	(1950)	F 28
Lauridsen and Ross	(1952)	M 29
		M 31
Barb and Pearl	(1956)	M 30
Parker and Serjeant	(1957)	M 33
Anscombe *et al.*	(1967)	F 42
		F 57

rotomy and sigmoidoscopy were all initially negative. The episodes of melaena recurred at variable intervals and a solitary caecal diverticulum situated on the medial aspect of the caecum was first detected by barium enema in 1961. The patient died of cerebral thrombosis in 1970.

Case 2. — A 49 year old male was referred for investigation of loss of weight and loss of appetite in 1972. A barium meal showed a duodenal ulcer and multiple diverticula in the proximal half of the ascending colon; no other diverticula were visible in other regions of the colon. Treatment for duodenal ulcer led to marked clinical improvement.

Case 3. — A 51 year old male died in a traffic accident. At post-mortem a solitary diverticulum was found on the posterior aspect of the caecum, between the taenia mesocolica and the taenia omentalis. Serial histological sections showed this diverticulum to be of the false type.

Case 4. — A 73 year old male presented in 1973 with progressively deepening jaundice and marked loss of weight of recent onset. He died 4 days after admission. A post-mortem examination revealed carcinoma of the ampulla of Vater. A solitary diverticulum was present on the antero-medial aspect of the ascending colon, between the taenia mesocolica and the taenia libera, about 4 cm above the ileocaecal valve. Serial histological examination showed this diverticulum to be of the false type.

Case 5. — An 85 year old male, presenting with retention of urine in 1973 showed rapid deterioration in his condition. Post-mortem examination revealed bronchopneumonia and prostatic hyperplasia and cystitis. 5 diverticula were found in the lower ascending colon, the most proximal diverticulum being 3 cm above the ileocaecal valve. 4 diverticula were situated medially between the taenia libera and the taenia mesocolica and 1 diverticulum was situated between the taenia mesocolica and the taenia omentalis. No other diverticula were found in the other regions of the colon. Serial histological examination of 1 of the diverticula showed it to be of the false type.

Case 6. — A 57 year old male who died suddenly, was found at post-mortem to have had myocardial infarction and pulmonary oedema. A solitary caecal diverticulum was present at the level of, and just anterior to, the ileocaecal valve between the taenia libera and the taenia mesocolica. Serial histological examination showed it to be of the false type.

Case 7. A 68 year old female who died suddenly was found at post-mortem examination to have had thrombosis and coronary insufficiency. A solitary diverticulum was present in the ascending colon, 17 cm above the ileocaecal valve, between the taenia libera and the taenia mesocolica.

Case 8. — A 62 year old male died suddenly and postmortem examination revealed cerebral oedema and ventricular failure. A solitary large inflamed diverticulum was present in the ascending colon, 14 cm above the ileocaecal valve, between the taenia libera and the taenia mesocolica.

Discussion

Diverticula of the right colon are usually asymptomatic unless they give rise

TABLE 3
Percentage Incidence of Diverticula Limited to Right Colon

Author	No. of Patients with Diverticula	Caecum	Ascending Colon	Right Colon	Remarks
Ochsner and Bargen (1935)	208	—	—	3	Clinical series
Willard and Bockus (1936)	72	—	—	5.5	Clinical series
Mayo and Blunt (1950)	202	1	0	—	Surgical series
Slack (1962)	26	0	0	0	Postmortem series
Molteni *et al.* (1967)	154	—	—	4	X-rays series
Parks (1968)	111	0	2.7	—	Postmortem series
Parks (1969)	461	0	0	—	Clinical series
Tagart (1969)	98	0	1	1	Clinical series
Painter (1972)	70	0	1.4	—	Clinical series
Present Survey	257	0.4	0.4	—	X-rays series
	20	10	20	—	Postmortem series

to complications. Asymptomatic diverticula can only be diagnosed radiologically or at post-mortem: radiology, however, tends to underestimate the incidence of this condition and may give a misleading picture of the extent of the disease. The incidence of diverticula limited to the right colon given by various authors varies (Table 3).

There is general agreement that right-sided diverticular disease occurs at an earlier age than the more common left-sided form and it is equally distributed between the sexes. The average age incidence given by various authors for right-sided diverticula treated surgically ranges between 39 and 41 years (Schnug, 1943; Anderson, 1947; Byrne *et al.*, 1950; Lauridsen and Ross, 1952; Wagner and Zollinger, 1961). In contrast, the average age in a series of 144 patients undergoing surgery for diverticular disease of the sigmoid colon was 53.6 years (Pemberton *et al.*, 1947), while that of patients with all types of diverticular disease was 54 years (Mayo and Blunt, 1950). In our necropsy series the average age of patients with diverticular disease of all types was 66.1 years and that of patients with diverticular disease of the right colon was 66.6 years, while our barium study survey showed that these 2 average age incidences were similar. Thus, in both surveys, the average age of patients with right-sided diverticula was not significantly different from that of patients with all types of diverticular disease.

Diverticula of the caecum and ascending colon are regarded by most investigators as being usually of the solitary type (Geist, 1933). Nicholas *et al.* (1962) found that 80 per cent of the caecal diverticula in their series were solitary. Burgess (1940) however, suggested that cases of apparent solitary caecal diverticulitis may be accompanied by adjacent non-inflamed diverticula and that a careful barium enema study should be made to rule out other diverticula. Others (Busch and Friedfield, 1942; Case and Shea, 1953) claim that caecal diverticula occur more often as part of generalised diverticular

disease. Six of our cases were solitary and 2 multiple. Many distinguish solitary diverticulum of the right colon from widespread diverticular disease with involvement of the caecum or ascending colon (Jonas, 1940; Kazmierski, 1950; Barb and Pearl, 1956). Perry and Morson (1971) point out that although solitary right-sided diverticulum is a well recognised entity, multiple diverticula involving the caecum and/or ascending colon and limited to these regions are extremely rare in persons of Caucasian origin. This condition, however, seems to be the more common type of diverticular disease in certain Oriental races. In both our radiology and necropsy series, diverticular disease limited to the right colon was significantly less common than left-sided diverticular disease and the diverticula were usually solitary, thus conforming to the usual pattern of distribution.

The major complications which may arise from diverticula of the right colon are acute and chronic inflammation and gastrointestinal bleeding. Acute inflammation is the commonest complication, the condition closely mimicking acute appendicitis if the diverticulum is in the caecum or lower ascending colon, or cholecystitis if the diverticulum is in the upper ascending colon. The correct diagnosis is in fact rarely made preoperatively, but is usually suspected if a patient has had a previous appendicectomy.

Diverticula of the right colon are uncommon. They rarely give rise to clinical symptoms but should be considered and excluded in the differential diagnosis of doubtful lesions of the right colon.

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