APPENDIX C. RANK NUMBERS OF THE TWIN PAIRS*

Monozygotic Pairs	Dizygotic Pairs
117	71
108	115.5
105	115.5
104	114
103	113
99	112
97	111
92	110
90	109
88.5	107
84	106
81	102
79	101
79	100
79	98
76	96
74.5	95
71	93.5
69	93.5
67.5	91
65	88.5
64	87
62	86
60	85
59	83
57	82
56	77
53	74.5
52	73
48	71
3,076.0	3,945.0

* Rank-order based on the results of appraisal of all data. Low number signifies strong concordance.

REFERENCES

- Bleuler, M. (1955). *Familial and Personal Background of Chronic Alcoholics: Etiology of Chronic Alcoholism*, edited by O. Diethelm, p. 110. Thomas, Springfield.
 Doll, R., and Hill, A. B. (1954). *Brit. med. J.*, 1, 1451.
 — (1956). *Ibid.*, 2, 1071.
 Essen-Möller, E. (1941). *Hereditas (Lund)*, 27, 1.
 Fisher, R. A. (1958). *Nature (Lond.)*, 182, 108.
 Hammond, E. C., and Horn, D. (1954). *J. Amer. med. Ass.*, 155, 1316.
 Siegel, S. (1956) *Nonparametric Statistics for the Behavioral Sciences*. McGraw-Hill, New York.

Medical Memoranda

A Case of Anaemic Gangrene of the Bowel

Mesenteric vascular occlusion was first reported by Tiedman in 1843. From that time it was observed increasingly by Virchow, Moor, Hegar, and Chiene, until at the turn of the century Jackson, Porter, and Quinby, in America, were able to collect 214 cases. Leslie Trotter (1913) published an excellent and comprehensive monograph on the subject. He drew attention to a group of cases in which the intestines presented as a pale or "anaemic infarct" as distinct from the more commonly observed congested plum-coloured infarct. He quotes a series of nine cases. Eight were collected from the literature, the other was a case under the care of Sir Rickman Godlee reported by Trotter, who described the affected bowel as "white or yellowish grey in colour and entirely devoid of blood. At one or both ends of the infarcted segment there may be a demarcation zone of hyperaemia separating it from healthy intestine, as in the case of anaemic infarcts in other parts of the body. The wall of the affected coil is generally very thin."

CASE REPORT

A woman aged 76 was admitted to the Royal Hospital, Wolverhampton, on September 20, 1957, as a case of auricular fibrillation with severe abdominal pain of 22 hours' duration. Her general condition on admission was poor; she was collapsed, with a barely perceptible pulse and a blood pressure of 60/40. Her story, for she was quite lucid and mentally alert, was that one hour after her midday meal

the previous day she was seized by severe central abdominal pain associated with some bilious vomiting. The pain gradually increased in severity, and after a restless night her general condition suddenly deteriorated, culminating in the collapsed state with which she presented in the casualty department.

Examination of the abdomen revealed a moderate degree of distension, with tenderness on the right spreading across the epigastrium. There was some guarding but no rigidity. Bowel sounds were absent. There had been absolute constipation since the onset of pain. Rectal examination did not reveal any blood or abnormally coloured faeces.

A straight x-ray film did not reveal any fluid levels but showed a peculiar gas shadow below the liver on the extreme right. Serum amylase was within the limits of normal.

The patient responded to sedation and the administration of intravenous fluids. Her blood pressure rose to 120/80 during the afternoon and stabilized at this level. At this point it was decided to perform a laparotomy.

Under general anaesthesia a laparotomy was performed through a paramedian incision. When the peritoneum was incised the odour of putrefaction arose. The intestines were bathed in a foul-smelling turbid fluid—not blood stained—and presented as a grey infarct with the proximal coil of jejunum plum-coloured, as were the terminal ileum and colon.

As the patient's general condition began to deteriorate rapidly an emergency closure was done and she was returned to the ward. She died that evening.

At the post-mortem examination, carried out by Dr. A. G. Marshall, an embolus was found to have lodged in the superior mesenteric artery just below the inferior pancreaticoduodenal branch. Progression clot was present in all the branches of the artery below this point. The heart was hypertrophied and the left auricular appendage was full of old thrombus: one piece was lying loose in the auricle.

COMMENT

The cause of this type of gangrene is obscure, in that it is difficult to account for the absence of reflux of portal blood. Moore (1941) recognized this rare condition in a survey of mesenteric vascular occlusion but was unable to explain its occurrence. Klass (1951) and Van Weel (1953) reported cases in which embolectomy was performed and which would fit into this category of anaemic gangrene. These gave a history of 12 and 13 hours' duration.

The case reported here was of at least 27 hours' duration when brought to laparotomy, and at least 18 hours had elapsed before circulatory collapse occurred.

No reasonable cause was found on post-mortem examination to account for the lack of reflux of portal blood when relieved of its normal *vis a tergo* by the impact of the embolus in the superior mesenteric artery. The portal vein and its tributaries were normal. The proximal jejunum and the caecum did, of course, show congestion of the more usual venous type.

I thank Mr. C. Vincent Patrick for his advice and permission to publish this case. Dr. A. G. Marshall kindly supplied the details of the post-mortem examination.

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BIBLIOGRAPHY

- Cokkinis, A. J. (1926). *Mesenteric Vascular Occlusion*. Baillière, Tindall and Cox, London.
 Ficarra, B. J. (1944). *Amer. J. Surg.*, 66, 168.
 Klass, A. A. (1951). *Ann. Surg.*, 134, 913.
 Moore, T. (1941). *Brit. J. Surg.*, 28, 347.
 Trotter, L. B. C. (1913). *Embolism and Thrombosis of Mesenteric Vessels*. University Press, Cambridge.
 Van Weel, M. W. (1958). *Arch. chir. neerl.*, 6, 149.