Abdominal Physical Signs and Medical Eponyms: Part II. Physical Examination of Palpation, 1907-1926

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Background: Abdominal palpation is an important clinical skill used by physicians to detect the cause of the underlying disease. Abdominal physical signs reported as medical eponyms are sometimes helpful in supporting or confirming clinical suspicion of a diagnosis. With the advent of advanced and rapid imaging techniques physicians often know the diagnosis prior to setting their hands on patients. Nevertheless, knowledge of these signs may still remain important in settings where imaging may not be readily available and importantly provide deeper insights into the mechanism of disease. In this paper, described are medical eponyms associated with abdominal palpation from the period 1907-1926.

Data Sources: PubMed, Medline, on-line Internet word searches, textbooks, and references from other source text were used as the data source. PubMed was searched using the Medical Subject Heading (MeSH) of the name of the eponyms and text words associated with the sign.

Conclusion: We describe brief historical background information about the physician who reported the sign, original description of the sign, and its clinical application and implication into today's medical practice.

Keywords: Palpation; Abdomen; Signs; Eponyms; History of Medicine

Physicians used the clinical skills of touch to confirm the location of diseases of the stomach, gallbladder, and appendix as well as complications of peritonitis resulting from these conditions. It is through touch that pain is elicited due to diseases of the abdominal wall or inflammation of the parietal peritoneum by disease of the underlying organ(s). We present signs of medical eponyms of abdominal palpation as originally described and performed by these physicians to avoid any misrepresentation of their intentions. Many of these signs have not been tested in clinical research settings and, thus, there is a knowledge deficit regarding their usefulness in clinical practice. Furthermore, for those signs that are tested, many may not have been performed identically to their original description and, thus, the validity of these signs must be interpreted cautiously. In part I of Palpation of the Abdomen,¹ we covered the time period of 1876 to 1907. This paper continues that discussion describing medical

eponyms associated with abdominal palpation from the time period of 1907 to 1926 (Table 1). Presented are brief historical aspects, performance, clinical application, and implication of these signs as described by their namesake. The signs are described systematically based on the year they were originally reported.

Data Sources

PubMed, Medline, on-line Internet word searches, textbooks, and references from other source text were included. PubMed was searched using the Medical Subject Heading (MeSH) of the name of the eponyms and text words associated with the sign.

Blumberg-Shchetkin Sign

Jacob Moritz Blumberg (1873-1955), surgeon and gynecologist, was born in Posen province of Silesia, Prussia.

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Table 1. Summary of abdominal physical signs of palpation (1907-1926)

Sign	Year	Description	Sensitivity	Specificity
Blumberg	1907	The examiner applies pressure to the area of the abdomen to be examined watching the patient's face and asking whether he/she experiences pain. The palpating hand is removed abruptly and the patient is now asked about the pain. A positive sign is that the pain is worse when the hand is removed signifying the presence of an inflamed parietal peritoneum (rebound tenderness).	82%	89%
Shchetkin	1908	The examiner places and presses his/her hand on the patient's abdomen. Pain in the abdomen is usually not felt. The patient reports a strong pain soon after the examiner lifts his hand from the abdominal wall. A sign for localized and generalized peritonitis.	Unknown	Unknown
Aaron	1913	In chronic appendicitis, continuous firm pressure using the first three fingers over McBurney's point causes pain in the epigastrium, left hypochondrium, umbilical and precordial regions.	Unknown	Unknown
Volkovich	1914	In chronic appendicitis, when examining the patient from behind and in the front the right lumbar region is less prominent and hypochondrium depressed respectively. With the patient supine, the examiner horizontally observes the abdomen. In patients with chronic appendicitis, the right side of the abdomen appears to be more depressed with atrophy of the abdominal muscles. The examiner than palpates the abdomen starting at the iliac followed by hypochondrium and lumbar regions bilaterally. The soft tissue above the iliac crest is than grasped between the fingers. In patients with chronic appendicitis there is softness of the tissue with a more fibrous and less elastic feel to the muscles in the right iliac region.	Unknown	Unknown
ten Horn	1914	In the case of suspected acute appendicitis in males, the right spermatic cord is grasped using the thumb and index finger above the testis. Traction of the cord causes pain in the right iliac fossa.	Unknown	Unknown
Baldwin	1917	In the case of a retrocecal appendicitis, using your fingers, pressure is applied in the right lower quadrant. The patient is instructed to lift the right leg with the knee straight. Pain is worse in this position causing the patient to drop the leg.	Unknown	Unknown
Rosenstein	1920	In suspected acute appendicitis or typhilitis, the patient is placed in the left lateral decubitus position. The examiner applies pressure at the right side, 3 fingerbreadths inside of and slightly below the right iliac spine. Pain is elicited if the cecum and/or the appendix is inflamed.	Unknown	Unknown
Fothergill	1926	In the case of a rectus muscle hematoma the mass does not cross the midline, remains palpable when the muscle is contracted and relaxed, is fixed when the muscle contracts and deep percussion causes a resonant note.	Unknown	Unknown

He received his medical degree from University of Breslau, Wroclaw in 1897,² and furthered his medical training under the aegis of renowned physicians, including Albert Ludwig Sigismund Neisser who identified *Neisseria gonorrhea*.³ Blumberg served in the German army during the First World War and was credited in 1913 for successfully containing the typhus epidemic in the Eastern front, which was later described as “one of the greatest achievements in medical military history.”⁴ In addition to the sign of peritonitis that bears his name, his other accolades include developing a surgical rubber glove; an instrument to facilitate suturing of the perineum; and, in 1912, a surgical procedure for temporary sterility in women. Blumberg immigrated to England during the Second World War.²

Blumberg described the sign as found in patients with early peritoneal inflammation and appendicitis in 1907 in the paper entitled “Über ein diagnostisches Symptom bei Appendicitis” (*A new diagnostic Symptom in Appendicitis*) (Table 1):

*[d]uring the test the examiner applies pressure to the area to be examined watching the patient's faces and asks whether he/she experiences pain. The palpating hand is now removed abruptly and the patient is now asked about the pain.*⁵ (p. 533) (*emphasis added*)

During the maneuver Blumberg wrote “The patient distorts his/her face during palpation of the abdomen.”⁵ (p. 534) In describing the pain he wrote: “The pain is worse when the hand is removed in cases of an inflamed parietal peritoneum.”⁵ (p. 534)

This sign may be found in conditions of the abdomen that causes inflammation of the parietal peritoneum. A study by Andersson et al⁶ reported the positive and negative likelihood ratio of rebound tenderness as 1.99 (1.61, 2.45) and 0.39 (0.32, 0.48), respectively. Another study by Golledge et al⁷ analyzed the data from 100 patients with right iliac fossa pain, to assess the accuracy of signs in predicting appendicitis, identifying a sensitivity and specificity of rebound tenderness of 82% and 89%, respectively. The positive predictive value was 86%.⁷ A large series reported a sensitivity ranging from 40%-95%, specificity 20%-89%, and positive and negative likelihood ratios of 2.1 and 0.5, respectively, for detecting peritonitis in patients with acute abdominal pain.⁸

Dmitri Sergeevich Shchetkin (1851-1923) received his medical degree from the St. Petersburg Medical and Surgical Academy in 1877, and he was a resident from 1877 to 1878 during the Russian-Turkish war.^{9,10} In 1880, he completed a one-year internship at the Clinical Military Hospital in St. Petersburg, with a focus on obstetrics and operative gynecology and surgery.⁹ From 1884 to 1888, he was vice-president of the Ryazan Medical Society,⁹ and was appointed senior (chief) physician of the Ryazan Provincial Zemstvo Hospital from 1888 to 1902. He received the degree of Doctor of Medicine and completed a doctoral dissertation for his thesis “On conditions favorable for the development of

venous thrombosis after ovariectomy” delivered at the St. Petersburg Medical and Surgical Academy in 1889.⁹

The palpatory sign was proposed by D.S. Shchetkin and used by Ryazan gynecologists and surgeons by the end of the 1880s. It was also used by physicians at Penza Provincial Zemstvo I Hospital (Russia) in 1902, which was prior to Blumberg's description of the sign in his 1907 paper in the Munich Medical Journal.¹⁰ It was not until 1908 that Shchetkin reported the sign in patients with peritonitis at a meeting of the Penza Medical Society¹¹ (Table 1):

*The symptom is that if you put your hand all over the patient's abdomen and easily press, pain in the abdomen is usually not felt. The patient feels a strong pain soon after the examiner lifts his hand from the abdominal wall. The symptom is especially characteristic with local peritonitis due to the fact that it accurately indicates the site of the lesion on the peritoneum. It equally serves as a valuable sign for general peritonitis. In addition to all this, it is important in the differential diagnosis between peritonitis and abdominal wall pain stimulating peritonitis.*¹⁰ (p. 51) (*emphasis added*)

In his paper “On the abdominal tremor,” Shchetkin described another palpatory finding of the abdominal wall in patients with intestinal adhesions. He reported that the presence of adhesions between the intestines and abdominal wall causes, when the patient talks, vibration of the diaphragm transmitted through the adhesions to the abdominal wall.¹⁰

Aaron Sign

Charles Dettie Aaron, ScD, MD, (1866-1951) was born in Lockport, New York, received his medical degree in 1891 from the University of Buffalo and ScD degree from University of Heidelberg.^{12,13} For 2 years he served as house surgeon at Harper Hospital (Detroit, Michigan) from 1891 to 1893. He was a faculty member at Detroit College of Medicine and Surgery in Materia Medica and Therapeutics, and Professor of Gastroenterology and adjunct Professor of Dietetics from 1905 to 1938.¹³ He also served as Professor of Gastroenterology at the Detroit Post-Graduate School of Medicine and consulting gastroenterologist to Harper Hospital (Detroit, Michigan).¹³

He was one of the founders of the American Gastroenterological Association, serving as Secretary-Treasurer from 1897 to 1910. He authored over 70 scientific articles, books including *Diseases of the Stomach* (1911) and *Diseases of Digestive Organs* (1915), and a book chapter on dietetic treatment of disease in *The Oxford Index of Therapeutics* (1921).^{13,14}

In his 1913 paper entitled “A sign indicative of chronic appendicitis” Dr. Aaron wrote (Table 1):

[f]ound that a continuous firm pressure with the ends of the first three fingers over McBurney's point induced a referred distress or pain in the epigastrium or precordial region.” (...) Since then, in many cases of chronic

*appendicitis with digestive symptoms, I have been able to induce a referred pain or distress in the epigastrium, left hypochondrium, umbilical, left inguinal or precordial region by a continuous firm pressure over the appendix.*¹⁵
(p. 350) (emphasis added)

The pathophysiology underlying this sign, as described by Dr. Aaron, is that chronic inflammation causes connective tissue proliferation. This growth results in formation of scar tissue that impinges on the surrounding nerve fiber endings. The appendix has nerve connections with multiple plexuses including the superior mesenteric plexus of the sympathetic chain and gastric and hepatic plexuses. Pressure on these nerve endings results in reflex production of symptoms including pain or discomfort through these nerve plexuses. We are unaware of any study that validated this sign.

Volkovich Sign

Nikolai Markianovich Volkovich (1858-1928) was born in Gorodnya, a town of Chernihy Province, Ukraine. He received his doctor of medicine degree with distinction from Faculty of Medicine at Kiev University in 1882 and surgical training as an intern with Professor Borngaunt's Hospital Surgical Clinic in Kiev.¹⁶⁻¹⁸ In 1893, he was appointed head of the Surgical Department, Alexandrine Hospital, at Kiev City. In his publication "On the question of section of the abdominal integument during abdominal incision" in 1898, he described a method for bluntly dissecting without obliquely incising the abdominal wall, an important technique for the surgical management of appendicitis.^{16,18}

In 1903, Volkovich was elected Professor and Head of Hospital Surgical Clinic at Kiev University,¹⁸ and from 1911-1922 lead the Department of Faculty Surgery.¹⁶ He was founder of the Academy of Sciences in Ukraine, and both organized and served as chairman of the Kiev Surgical Society.^{18,19} In 1922, he served as Chair of Medical Research, Kiev Branch, Main Board for Sciences, Museum and Artistic Research Establishment.^{20,21}

Volkovich was elected a full member of the Academy of Science of the Ukrainian SSR in 1928 and was an honorary member of the Society of Russian Surgeons, the Russian Surgical Society Pirogov, and the Saratov Surgical Society, among others.^{17,20} In 1928 he published a monograph, "Damage to the bones and joints," the first complete manual on trauma in the Russian language.¹⁸

Volkovitch understood the art of surgery, that is

*[t]he art that gives the doctor the right to be an expert clinician. By this is meant the art of recognizing the disease, foresight about its course, the ability to intervene or wait in time, and finally, modify the plan if the intervention does not follow the well-known pattern*¹⁶;

and he contributed substantially to the advancement of the fields of medicine and surgery through his expertise in the fields of orthopedics, obliterating endarteritis, urology,

gynecology, otolaryngology, biliary pathology, and surgery and trauma. His work spanned multiple therapeutic areas such as rhinoscleroma, surgical treatment of cholelithiasis, appendicitis, bone tuberculosis, and tuberculosis peritonitis.^{20,22}

In 1914, Volkovitch described his findings in patients with chronic appendicitis in his article entitled "More about the muscle sign of chronic appendicitis" published in *The Russian Doctor* (Table 1):

*The purpose of this article is to recall the symptom in chronic or recurring appendicitis, which I described in 1911 in The Russian Physician (No. 14) and in Zentralblatt f. Chirurgie (No. 22) and about which in the same year a detailed abstract was given in La Semaine médicale (No. 19). I designate this attribute as a "muscular symptom of chronic appendicitis" in contrast to the muscular sign that characterizes acute appendicitis. (...) In acute appendicitis, there is an increased tone of the abdominal muscles and hence tension of the abdominal wall, which protrudes so sharply on the right side. In cases of chronic appendicitis, or during intervals between attacks of appendicitis, there is weakening of the abdominal wall and a noticeable softness and decrease in volume on the right compared to the left side. These phenomenons are determined by comparing the feeling elicited by palpating both sides of the abdomen. First, the condition of the iliac region is felt by palpation, then continue onto the hypochondrium and lumbar regions, where the broad abdominal muscle (oblique an transversalis) not yet merged into the tendon fibers, appears to be most powerful. Grasping the soft tissues above the iliac crest between the fingers can assess the conditions in these regions. On the right side, apart from being more depressible, the thinner layer of wall tissue grasped between the fingers is also determined. Reduction in the volume of the muscle on the rights side is carefully determined visually by looking horizontally with the patient positioned supine. The right iliac region appears more depressed than when compared to the left side. Additionally, when examining the patient from behind there the muscles in the right lumbar region is less prominent and there is a greater depression of the hypochondrium. I also note, that apart from the greater softness and decreased volume, the muscles of the affected side of the abdomen seem to be more fibrous and less elastic In other words, to a greater or lesser extent, the known manifestations of muscle atrophy are observed.*²³ (p. 601)

Volkovitch noted

*[t]hat the described changes in the muscle on the right side of the abdomen in patients with repeated appendicitis is mainly determined by feeling," and in "[g]eneral, the more pronounced this sign, the more severe is the frequency, strength and duration of attacks of appendicitis.*²³ (p. 601) (emphasis added)

He further reported:

My attention was often drawn to the cases of left-sided scoliosis, usually in the initial stage, in young people whose abdomen in the right lumbar-hypochondrium region compared to the left side showed noticeable softness and decreased abdominal muscle volume. [I]n fact, in the cases of scoliosis, a characteristic feature is the finding of recurrent episodes of appendicitis. [I] came to the conclusion that with ever left sided scoliosis, one needs to be aware of the possibility of chronic appendicitis. [A]nother interesting aspect of this issue is that the scoliosis is located on the left, i.e., the body tends to lean to the side of the weaker muscles.^{23 (p. 601) (emphasis added)}

It is of interest that the Volkovitch's sign has been paired with the name Kocher in the modern literature to describe the Volkovitch-Kocher sign referring to pain in the epigastrium that shifts to the right lower quadrant.^{24,25} We were unable to identify the original article by Volkovitch in which he described this finding. Albert Vogel, resident of the surgical clinic of Professor Dr. Theodor Kocher (1841-1917), published the late Dr. Kocher's findings in a 1921 paper entitled "Die Behandlung der Appendicitis an der chirurgischen Klinik der Universität Bern" (The treatment of appendicitis in the Bern University Clinic).²⁶ The content was based on an address by Kocher at the inaugural meeting of the Swiss Society of Surgery delivered on March 8, 1913. The publication of this paper was delayed due to World War I. Kocher reported:

The initial localization of pain in the epigastrium (together with vomiting), the subsequent diffuse spread and the gradual fixation in the classical place, at McBurney's point, in our opinion is based on an initially occurring general peritoneal irritation. This irritation should not be confused with the serous type of peritonitis which later develops if the appendix becomes gangrenous or perforates. On the other hand, we can explain the diffuse pain, especially in the umbilical region and in the epigastrium, by the fact that in the first stages the appendix itself is not painful, the pulling on the peritoneum being the cause of the pain. Local pain develops if infiltration of the mesentery occurs.^{26 (p. 2-3) (emphasis added)}

In a study of 19,346 patients with acute appendicitis, the Volkovitch-Kocher sign (performance not described in this paper) was found in 37.1% of patients with uncomplicated, 86.9% phlegmenous, 94.4% gangrenous, and in 96.1% with perforation.²⁷ They found that the Volkovitch-Kocher sign, in combination with pain in the right inguinal region and abdominal rigidity, were the most useful symptoms in diagnosing acute appendicitis with the Shchetkin-Blumberg, Rovsing, Voskresensky, and Obraztov signs lacking sufficient specificity in the diagnosis of acute appendicitis.²⁷

ten Horn's Sign

Carel Hendrik Leo Herman ten Horn (1884-1964) was born in Veendam, Holland. He practiced surgery, serving on the Faculty of Medicine and Health Science at the University of Gent from 1916 to 1918.²⁸ Other titles for which he received appointments included extraordinary Professor of Medicine and Health Sciences from 1916, Ordinary Professor of Faculty of Medicine and Health Sciences beginning 1917, Director of the Surgical and Urological Division from 1914 to 1915, and First Assistant of the Surgical Clinic at University of Amsterdam from 1910 to 1914.²⁸ He also served as head of the Department of Health Medicine from 1917 to 1918 and Director of the General Health Clinic and General Clinic of Surgery from 1917 to 1918.²⁸

In his paper entitled "Zur Diagnose der Appendicitis" (For the diagnosis of appendicitis) published in 1914 (Table 1), he described the method for performing a test in patients with suspected acute appendicitis:

[I] have found in a great majority of cases a symptom which, to the best of my knowledge, is not sufficiently known, namely pain on traction on the right seminal cord^{29 (p. 1537)} and,

The test must avoid any unnecessary pressure of the testis; it is best to grasp the spermatic cord above the testis between thumb and index finger. The traction of the seminal strand produces a displacement of the parietal peritoneum near the inner groin.^{29 (p. 1537) (emphasis added)} (...) *The behavior of the cremaster reflexes is of considerable importance in acute appendicitis; one finds here and there a diminution of the right-hand cremaster reflex, but the phenomenon was quite incommensurate in the case examined by me.*^{29 (p. 1538)}

He described the pathophysiology behind this sign:

It is known that in inflammation of the peritoneum the slightest strain is already painful. This pulling pain in the right spermatic cord, therefore, gives an indirect explanation; the direct path through palpation is, of course, more valuable and absolutely necessary, but the patient is only too often followed with anxious eyes.^{28 (p. 1538) (emphasis added)}

He reported the results of this test in 15 patients:

Among 15 patients, 12 cases showed this phenomenon. In some cases the traction of the left spermatic cord was also painful; in this case much sero-fibrinous exudate was found in the abdominal cavity during the operation. Pulling the right spermatic cord was not painful.^{29 (p. 1537) (emphasis added)}

Traction of the right spermatic cord is believed to produce pain in the right iliac fossa due to apposition of the gonadal vessels against an inflamed appendix. We are unaware of any study that validated this sign.

Baldwin Sign

James Fairchild Baldwin (1850-1936) was born in Orangeville, New York and received his medical degree from Jefferson

Medical College in 1876, graduating first in his class.³⁰ His graduation thesis entitled “The Relation of Ozone to Disease” won first place.³¹ He practiced in Columbus, Ohio in 1876 and that same year founded the Columbus Medical Journal, serving as its editor-in-chief until 1894. He was professor of physiology and anatomy at *Columbus Medical College*, Professor of Surgical Gynecology, and Chancellor at the Ohio Medical College, later serving as professor of clinical surgery at the Medical College of the Ohio State University.

In 1900, Dr. Baldwin founded Grant Hospital in Columbus, Ohio.³⁰ He developed a new operating table and surgical approaches and techniques for abdominal, renal, and gynecological surgery, as well as an operative technique for plastic surgery of the nose, lips, and vagina.^{30,32}

In the discussion of a case by J.D.S. Davis, MD, FACS, “Value of pain, jaundice and tumor mass in the differential diagnosis of diseases of the right upper quadrant of the abdomen,” Dr. James F. Baldwin (1917) stated (Table 1):

*There is one point that was not brought out by Dr. Carstens relative to the matter of diagnosis in retrocecal appendicitis. In the vast majority of cases, when you have such a condition, you can by pressure elicit tenderness such as the doctor described: then tell the patient to keep the knee stiff and lift the right leg; as the psoas muscle contracts under your fingers, the tenderness becomes much more marked and the leg drops with an expression of pain from the patient.*³³ (p. 254) (emphasis added)

According to Baldwin “*The appendix rests on the psoas muscle, and when brought up under the fingers gets pinched. I have made the diagnosis in this way over and over again, and have never failed to find a retrocecal appendix.*”³³ (p. 254) (emphasis added) Thus, the inflamed retrocecal appendix irritates the psoas muscle when the thigh and knee are extended on to the abdomen. We are unaware of any study that evaluated the sensitivity or specificity of this sign.

Rosenstein Sign

Paul Rosenstein (1875-1964) was born in Graudenz (Grudziadz), a city that was part of the German Empire during that time. He received his doctorate degree in 1898 for his dissertation entitled *Ein Beitrag zur Kenntnis überzähliger Ovarien* (A contribution to the knowledge of ovaries),³⁴ and worked as a junior physician at the Institute of Pathology in Königsberg as well as the University Gynaecological and Surgical Hospital in Berlin.³⁴ Beginning in 1909, Rosenstein directed the surgical department on the Hasenheide Hospital in Berlin and, in 1917, became Director of the Surgical Polyclinic of the Jewish Community Hospital in Berlin.³⁴ At the Jewish Hospital, he served as Adjunct Professor in Urology and was Head of the Surgical Department and, until 1933, he was President of the Berlin Urological Society. Rosenstein, as well as other Jewish physicians, was forced from his position and banned from practicing medicine and law during the Nazi era. In response, he immigrated to Rio de Janeiro in 1938.^{34,35}

In his paper entitled “Pressure pain in mesentery with appendicitis” published in 1920, Dr. Rosenstein described a test for differentiating pain with appendicitis as follows (Table 1):

*The patient is placed on his/her left side with the anterior superior spines of the ilium perpendicular to the surface. Pressure is applied to the right side, three fingerbreadths inside of and slightly below the right spine. If the cecum or appendix is inflamed the patient experiences a very intense pain.*³⁶ (p. 644) (emphasis added)

The symptom is explained according to Dr. Rosenstein as follows:

*[t]hat the inflamed cecum, or the appendix, owing to its volume increased by the hyperemia, should fall into the left lateral position toward the central line, and to contract the mesentery more than in the healthy state. In addition, inflammatory processes occur in the mesentery or mesenterium, which increase the sensitivity.*³⁶ (p. 644) (emphasis added)

We are unaware of any studies that evaluated the sensitivity or specificity of the Rosenstein sign. The name Siktovsky is also used in conjunction with this sign; however, we were unable to identify Dr. Siktovsky’s paper describing this sign. In a study of 19,346 patients, the Sitkovosky sign (performance of the sign was not described) was found in 26.8% of patients with acute appendicitis (19.7% of uncomplicated, 30.4% phlegmonous, and 32.8% gangrenous).²⁷

Fothergill Sign

William Edward Fothergill (1865-1926), an English gynecologist, was born in Southampton, England³⁷ and attended the University of Edinburgh receiving his medical degree (MD, CM) on July 1, 1897.³⁸ Being recognized with first class honors, Fothergill received a gold medal for his thesis on “The Ultimate Fate of Placental Tissues Retained in Utero” and the Milner Fothergill medal for “The Use of the Senecios in Disorders of Menstruation.”^{38,39} He was admitted to the Edinburgh Obstetrical Society in 1894 serving as member of council and for 2 years as a Fellow of the Edinburgh Obstetrical Society in 1905.⁴⁰

In 1896, Fothergill had his first hospital appointment at the Northern Hospital for Women and Children and served as the first director of Clinical Laboratory at the Manchester Royal Infirmary and Piccadilly site until 1904.³⁷ In 1907, he served as Assistant Gynaecological Surgeon, Royal Infirmary and St. Mary’s Hospitals, Manchester, followed by full surgeon in 1919.³⁷ One of his most significant contributions was the classification of gynecological disorders. He published a *Manual of Diseases of Women*, promoting a revised pathological classification of disease afflicting women, as well as over 50 manuscripts and communications.^{39,41,42}

In the British Medical Journal, Fothergill reported in 1926 when describing an abdominal wall hematoma (Table 1):

The main point is the recognition that these swellings are

*part and parcel of the abdominal wall. This is generally made by noting that they can still be felt when the recti are in action, and that they become fixed as the muscle contract. Another point is that, when a mass in the abdominal wall is not too large, a resonant note may be obtained right through it by deep percussion.*⁴³ (p. 942) (emphasis added)

Thus, if a mass in the abdominal wall does not cross midline, remains palpable when the rectus sheath is tense, and does not change with flexion of the rectus muscles, this is a positive sign for a rectus sheath hematoma.

Fothergill explained that “The extravasation of blood cannot cross the linea alba, but the swelling can extend beyond the middle line by pushing the linea alba over toward the sound side of the body.”⁴³ (p. 942) He recognized that “[t]hese signs are not infallible, for a mass within the abdomen that has become adherent to the wall gives the same signs as one which is a part of the wall.”⁴³ (p. 942) (emphasis added) We are unaware of any study that validated this sign.

Conclusion

Acquiring and mastering the clinical skill of palpation of the abdomen remained paramount in diagnosis. It is through these bedside maneuvers or tests depicted as medical eponyms that medical conditions can be differentiated and diseases confirmed. Although some of these signs may be antiquated, they were the tools that physicians used and emphasized in their teachings during that time prior to the advent of modern imaging techniques.

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