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SPECIAL ARTICLE

Eponyms in pancreatology: The people behind the names☆

Epónimos relacionados con la pancreatología. Sus protagonistas

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Balthazar score

Scale used to assess the prognosis of acute pancreatitis through the extension of pancreatic necrosis, measured as a percentage, by computed tomography.

Emil Jacques Balthazar (Romania, 1933) graduated from the Bucharest School of Medicine in 1959. He then emigrated to the USA where he is a professor emeritus of radiology at the New York University School of Medicine. Balthazar specializes in abdominal disease radiology. In 1985, he published an article on the prognostic value of computed tomography in acute pancreatitis.[1]

Beger technique

Surgical technique described by Hans Beger in 1980, comprising the resection of the pancreatic head with duodenal preservation, thereby reducing surgical aggressiveness and avoiding complications. It is used in the treatment of chronic pancreatitis.[2]

Hans Beger (Meissen [Germany] 1936) graduated in medicine from the University of Bonn in 1962 and, since 1981, has been a professor of surgery at Ulm university hospital. He was the president of the International Association of Pancreatology and of the European Pancreatic Club, among other distinctions.

Brunschwig operation

Surgical operation performed by Alexander Brunschwig in 1937, comprising the joint excision of the pancreas and duodenum in cases of invasive pancreatic head tumour.[3]

Alexander Brunschwig (El Paso [Texas, USA] 1901–1969) was the son of parents who emigrated from Alsace-Lorraine (France), who graduated as a Doctor of Medicine in 1927 from Rush Medical College in Chicago, founded in 1837. That same year, he enrolled as a resident in pathology at Boston City Hospital where he gained an interest in oncology after performing multiple autopsies of cancer patients. Brunschwig completed his training at the University of Strasbourg (France) in 1930–1931. He returned to the USA, to the University of Chicago, where he went on to specialize in surgery and, in 1940, was appointed professor of this speciality, a position he held until 1947 when he became head of gynaecology at the Memorial Hospital for Cancer and Allied Diseases and professor of surgery at Cornell University Medical College (Ithaca, New York). He published more than 400 articles and four books on oncology, including *The surgery of pancreatic tumors* (1942), *Radical surgery in advanced abdominal cancer* (1947) and *L'exentération pelvienne* (1964). In 1937, he performed the first joint simultaneous excision of the pancreas and duodenum for

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an invasive pancreatic head tumour, three years before it was done by Allen Oldfather Whipple (see Kausch–Whipple procedure). Brunschwig was an honorary member of many medical societies, both American and European. He died in Pelham (New York) in 1969 of a coronary lesion.[4]

Bryant sign

Blue colouring appearing on the scrotum due to bleeding from the retroperitoneal space, produced, among other causes, by acute pancreatitis.[5]

This sign was described by *John Henry Bryant* (Ilminster [Somerset, Great Britain] 1867–1906). He worked at Guy's Hospital in London from 1886, acting as co-editor of *Guy's Hospital Reports*,[6] among other positions.

Courvoisier–Terrier's sign

Palpation of the distended gallbladder accompanied by jaundice and acholia. The condition occurs as a result of choledochal obstruction due to ampuloma or neoplasia of the pancreatic head, rarely due to lithiasis. The sign was described in 1890 by Ludwig Courvoisier and Louis-Félix Terrier.

Ludwig Georg Courvoisier (Basel [Switzerland] 1843–1918). During the time he spent living on the island of Malta as a child, where he had moved with his family, Courvoisier became interested in botany and entomology. He graduated from the University of Basel School of Medicine in 1868 after he had to suspend his studies on two occasions, once because of typhoid fever and then again because of the Austro-Prussian war. He trained as a surgeon under the auspices of Billroth (Vienna) and Spenser Wells (London). In 1890, he published the book *Kasuistich-statistische Beiträge zur Pathologie und Chirurgie der Gallenwege*[7,8] which features the so-called ''Courvoisier's law''.

Louis-Félix Terrier (Paris [France] 1837–1908). Terrier studied veterinary medicine at Maison-Alfort in 1854 and, in 1859, he enrolled at the Paris School of Medicine, receiving his doctorate in 1870 with the thesis *De l'oesophagotomie externe*. He was a great advocate of asepsis, which allowed him, like Courvoisier, to practice interventions of the abdominal cavity.

Cullen's sign

A bluish blotch that appears around the navel when there is blood in the peritoneal cavity, especially in case of a ruptured ectopic pregnancy and pancreatitis.

Thomas Stephen Cullen (Bridgewater [Ontario, Canada] 1868–1953). He graduated from the University of Toronto in 1890 and specialized in gynaecology at Johns Hopkins Hospital, under the teachings of Howard Kelly. He was head of the Gynaecology department of said hospital from 1919 until 1938. In 1900, he published a treatise on uterine cancer that had a major impact and, in 1916, he described the sign that bears his name in a book on diseases of the umbilicus, entitled *Embryology, anatomy, and diseases of the umbilicus together with diseases of the urachus*.[9,10]

Dieulafoy's lesion

Eponym given to the catastrophic clinical manifestation of acute necrohaemorrhagic pancreatitis, as it was known in the late 19th and early 20th centuries, described masterfully by Dieulafoy.

Paul Georges Dieulafoy (Toulouse [France] 1839–1911) studied medicine in Paris where he graduated and received his doctorate with the thesis *De la mort subite dans la fièvre typhoïde* in 1869. He was head of the medicine department at the city's *Hôtel Dieu*. In 1898, he was named *Commandeur de la Légion d'honneur*. In 1910 he was elected president of the French Academy of Medicine. Dieulafoy wrote several books, most notably the *Manuel de Pathologie Interne*,[11] in which he described in one of his chapters the clinical manifestations of acute pancreatitis, calling it ''drame pancréatique'', which was later awarded his eponym. He also designed a trocar to evacuate pleural fluid, described a gastric vascular injury as a cause of bleeding, and the triad, which also bears his name, referring to the manifestations of acute appendicitis. He died in Paris in 1911.[12]

DuVal technique

A form of surgery devised by Merlin K. DuVal in 1954. It consists of a pancreaticojejunostomy with caudal drainage (end-to-end anastomosis) for the treatment of pain in recurrent chronic pancreatitis. However, this intervention was only effective when there was a single stenosis in the duct of Wirsung, which occurs rarely.[13]

Merlin K. DuVal (1922–2006) graduated in 1944 from Dartmouth Medical School (New Hampshire), the fourth oldest medical school in the USA, founded in 1797. He completed his residency at the Bronx Veterans Hospital, under the teachings of Allen O. Whipple, a pioneer in pancreatic surgery who stimulated his interest in this disease and, in 1954, he developed an innovative surgical procedure for the treatment of patients with chronic pancreatitis. In 1964, DuVal moved to Tucson to open, as the dean, the University of Arizona College of Medicine, which awarded its first degrees in 1971. He was assistant secretary to the Department of Health, Education and Welfare in Washington between 1971 and 1973, being the first to alert the public to the dangers of tobacco. He retired in 1990.

Fox's sign

A characteristic sign of necrohaemorrhagic pancreatitis consisting of ecchymosis at the level of the inguinal ligament secondary to the displacement of blood originating in the retroperitoneum through the fascia of the psoas muscle. It has also been associated with the rupture of an aortic aneurysm.

J.A. Fox published this sign while working at the Royal Free Hospital of London.[14]

Frantz's tumour

A very rare pancreatic tumour (1–2% of all pancreatic neoplasms) characterized by mainly appearing in young women,

presenting an indolent clinical course and reaching a considerable size. It has a low malignant potential so shows a good prognosis. The tumour presents liquid and solid areas with pseudopapillary formations. It was first described in 1959 by Virginia Kneeland Frantz[15] so was initially known by this name. However, it subsequently received several other names, such as Hamoudi's tumour (see below), papillary cystic neoplasm and solid papillary cystic neoplasm. It is now known as a solid pseudopapillary tumour.

Virginia Kneeland Frantz (New York [USA] 1896–1967) graduated in chemistry in 1918 and later enrolled at the Columbia University College of Physicians and Surgeons, where she was one of five women among the 74 students who were accepted. She graduated in 1922 and two years later became the first female surgeon at Columbia University, associated with the Presbyterian Hospital. In 1927, Frantz left the clinic to work in the pathology laboratory of the same hospital where she studied pancreatic, breast and thyroid tumours. In 1935, she described the secretion of insulin in pancreatic tumours alongside Allen O. Whipple. In 1959, she wrote a chapter on pancreatic tumours for the *Armed Forces Atlas of Tumor Pathology*, where she described the tumour that bears her name. Between 1924 and 1962, Frantz taught surgery at the Columbia University College of Physicians and Surgeons and, in 1967, the year of her death, the School awarded her with the institution's Silver Bicentennial Medal in recognition of her contribution to the teaching of medicine.

Frey's procedure

Surgical intervention consisting of a focal resection of the pancreatic head associated with a longitudinal pancreatojejunostomy of the body and tail for the treatment of pain in chronic pancreatitis.

Charles Frederick Frey (New York [USA] 1929) graduated in medicine in 1955 from Cornell University Medical College. During his residency at New York Hospital, from 1956 to 1963, he already showed a special interest in pancreatic pathology and road traffic accidents. In 1964, he transferred to the University of Michigan as a Professor of Surgery. In 1970, Frey founded and served as the first president of the Association for Emergency Medical Services, an organization of surgeons that supports the development of emergency medical programmes. In 1987, he performed and published, as a surgeon in Sacramento, California, the surgical technique that bears his name.[16]

Glasgow-Imrie criteria

These are a series of factors that enable the establishment of a prognostic prediction at the beginning of an episode of acute pancreatitis, whether caused by alcohol or lithiasis. If the patient meets three or more criteria, they indicate that there is a high risk of the patient presenting serious complications in the course of the disease.

They are called Glasgow-Imrie criteria because they were described in 1978 by the team of surgeons at the Glasgow Royal Infirmary directed by Clement W. Imrie, a leading Scottish surgeon and a top expert in pancreatic pathology.[17] Imrie graduated from the University of Glasgow and in 1967 began his surgery training at the Glasgow Royal Infirmary with Leslie H. Blumgart (South Africa, 1931), becoming a consulting surgeon in 1977.

These criteria were reviewed by Imrie's same team in 1984.[18]

Grey Turner's sign

Cutaneous ecchymosis in the lumbar region and abdominal flanks due to extension of a retroperitoneal haematoma secondary to necrohaemorrhagic pancreatitis. The blood diffuses through the posterior pararenal spaces and the lumbar muscles to the skin.[10,19]

George Grey Turner (North Shields [United Kingdom] 1877–1951) was a British surgeon who in 1898 graduated from the University of Durham, where in 1927 he became a professor of surgery. In 1920, he described the sign that bears his name. In 1934, he was president elect of the Medical Society of London. For decades he worked on cancer research and his thinking anticipated the use of chemotherapy. Grey Turner is credited with the phrase ''We shall never overcome cancer by surgery: it will be something we will inject'', referring to chemotherapy treatment by intravenous administration.

Halsted's sign

Ecchymotic spots spread across the abdomen, mainly in the periumbilical area, observed in the course of acute necrohaemorrhagic pancreatitis.

William Stewart Halsted (New York [USA] 1852–1922) was an American surgeon who in 1877 graduated as a Doctor of Medicine from the University College of Physicians and Surgeons. He completed a three-year training period in Europe under the auspices of prestigious surgeons. On his return to the USA, he worked at the New York Hospital, where he became friends with the pathologist William H. Welch. In 1882, Halstead performed the first cholecystectomy on his own mother on the kitchen table. He also performed one of the first blood transfusions.

In 1889, along with his friend and pathologist W.H. Welch, internist William Osler and gynaecologist Howard Kelly, he founded Johns Hopkins Hospital in Baltimore, where he was chief of surgery, and created the first American programme for training surgery residents. In 1891, Halstead conducted the first radical mastectomy performed in the USA, which a century before had been practised in France by Bernard Peyrilhe.[20]

Hamoudi's tumour

Another name by which Frantz's tumour is also known, now also termed a solid pseudopapillary tumour of the pancreas.

Ala B. Hamoudi was a Pathologist at Columbus Children's Hospital (Ohio). In 1970, he described the case of a 12-year-old girl who had undergone a duodenopancreatectomy to remove a tumour measuring 8 cm in diameter from the pancreatic head. He performed an exhaustive anatomopathological description, both visual and ultrastructural.[21]

Harris syndrome

Characterized by weakness, hunger, tremors, nervousness, mental confusion, erratic behaviour, tachycardia, sweating and pallor, symptoms produced by a low blood glucose due to hyperinsulinism and which are observed in patients suffering from insulinoma.

Seale Harris (Cedartown [Georgia, USA] 1870–1957) is credited with suggesting, in 1924, that the hypersecretion of insulin (discovered in 1922 by Banting and Best) could be responsible for certain cases of spontaneous hypoglycaemia.[22] As a result of his description, this clinical picture was named Harris syndrome. Harris's hypothesis was confirmed by Russel M. Wilder (Cincinnati [Ohio, USA] 1885–1959) in 1927, when he described the first case of hyperinsulinism associated with an insular cell carcinoma with hepatic, ganglionic and mesenteric metastases in a 40-year-old surgeon who presented frequent episodes of unconsciousness that were alleviated with the intake of sugar.[23] The patient died one month after the intervention performed by William James Mayo (Le Sueur [Minnesota, USA] UU.] 1861–1939), the founder of the Rochester Mayo Clinic, along with his brother Charles Horace and five other doctors. This intervention is considered the first published case of resection of a pancreatic neuroendocrine tumour.

Ivemark syndrome

A rare congenital disease characterized by multiple pancreatic cysts although the most important lesions, responsible for an early death, are transposition of the great vessels, pulmonary stenosis, single ventricle or bilocular heart, asplenia and liver fibrosis.

Biörn I. Ivemark (Karlstad [Sweden] 1925–2005) graduated in medicine from the Karolinska Intitutet in 1951 and received his doctorate in 1955, describing in his thesis the syndrome that bears his name.[25]

Johanson–Blizzard syndrome

Syndrome with autosomal recessive inheritance that has been associated with parental consanguinity. It manifests with aplasia of the nose wing, deafness, hypothyroidism, dwarfism, microcephaly (mental retardation), hypodontia, anal imperforation, among other anomalies. A characteristic feature is exocrine pancreatic insufficiency due to the replacement of pancreatic tissue with fat tissue, with additional loss of the islets of Langerhans, which is also associated with diabetes. It was first described in 1971.[26]

Ann J. Johanson (1934), an American paediatric endocrinologist, graduated in 1962 from the University of Missouri-Columbia School of Medicine. She worked at Johns Hopkins Hospital where, together with the paediatric endocrinologist *Robert M. Blizzard* (1936–2006), she described this syndrome. Blizzard worked on growth hormone and autoimmune endocrine diseases. In 1984, Johanson founded the journal *Growth, Genetics & Hormones* and was a founding member of the *Lawson Wilkins Pediatric Endocrine Society*.

Kausch–Whipple procedure

Surgical intervention used in cases of cancer of the pancreatic head and consisting of the excision of the pancreatic head, part of the stomach and the first and second part of the duodenum, common bile duct and gallbladder. The first known intervention of this type was undertaken by Alessandro Codivilla (Bologna [Italy] 1861–1912) in 1898 at the Imola Hospital (Bologna). Later, in 1909, Walter Kausch documented this procedure for the first time, which he performed over two sessions. Finally, Allen Oldfather Whipple performed, in 1940, the standard duodenopancreatectomy in one single procedure that bears his name. It is now simply known as the Whipple procedure.

Walter Kausch (Königsberg [Germany] 1867–1928) studied at the Friedrich Wilhelm University of Strasbourg from 1885 to 1890, graduating with a degree in medicine. From 1896 to 1906, he worked at the University Surgical Clinic in Breslau (Poland), one of the most prestigious of its time, completing his training with Professor Jan Mikulicz-Radecki (1850–1905). In 1905, Kausch became head of the Surgery Department of the Städtisches Augusta-Viktoria-Krankenhaus in Berlin, a position he held until his death in March 1928, due to a pulmonary embolism following a perforated appendix. In 1909, he successfully performed the first documented duodenopancreatectomy.[27] The intervention was performed over two sessions as the patient had jaundice and a bleeding problem (vitamin K would not be synthesized until 1939). He first resolved the jaundice by a cholecystojejunostomy and two months later performed the resection. The patient died of sepsis nine months later.

Allen Oldfather Whipple (Urmia [Persia] 1885–1963) was the son of missionary parents stationed in Urmia. He graduated from the Columbia University College of Physicians and Surgeons in 1908 and was a professor at Columbia University from 1921 to 1946. In 1935, he performed a partial resection of the pancreas over two sessions at the New York Presbyterian Hospital, given the risk of haemorrhage from jaundice, in a patient with ampullary carcinoma. In 1940, he performed a standard duodenopancreatectomy in a single session, after correcting the vitamin K deficiency of a patient with a pancreatic head tumour.[28] From that moment, the intervention became known as the Whipple procedure. During his professional life, Whipple performed 37 pancreaticoduodenectomies.

Kocher manoeuvre

Surgical manoeuvre that, on moving the duodenum, exposes the pancreas, thus facilitating surgery on this gland.

Emile Theodor Kocher (Burgdorf [Bern, Switzerland] 1841–1917) trained with Langenbeck in Berlin and Billroth in Vienna, as well as with Lücke, whom he succeeded as chair of Bern and director of the associated University Clinic. Kocher held this position from 1872 until the year of his death and created a large school over the 45 years he spent working in the city. This school produced professionals of the stature of Cesar Roux and Harvey Cushing. In 1903, he described the surgical manoeuvre that bears his name and which is still used today.[29] Kocher designed various surgical instruments (Kocher forceps or haemostatic clamps,

among others) and received the Nobel Prize in Physiology or Medicine in 1909 for his work on the physiology, pathology and surgery of the thyroid.

Langerhans, islets of

Nests of cells that make up the so-called endocrine pancreas. They are formed by nine different cell types, from which different types of hormones originate.

Paul Langerhans (Berlin [Germany] 1847–1888) began his medical studies at the University of Jena (Germany) in 1865. Later, he was a student of Rudolph Virchow at the famous Institute of Pathology in Berlin. In 1869, he published his thesis *Beiträge zur mikroskopichen Anatomie der Bauchspeicheldruse* in which he described, through staining studies with Prussian blue and transillumination, the structure of what became known, as of 1893, as the islets of Langerhans. This eponym was proposed by French histologist Gustave Édouard Láguesse (Dijon [France] 1861–1927) who postulated that these cells produced a substance that influenced the metabolism of carbohydrates.[30] Langerhans served as a Doctor in the German army during the Franco-Prussian war. In 1874, he contracted pulmonary tuberculosis and as a result he travelled to various countries looking for a cure. He settled permanently on the island of Madeira (Portugal), where the climate helped improve his health, allowing him to practise as a doctor. He died on 28 July 1888 from a kidney infection.

Lundh's test

A test to study pancreatic exocrine function that consists in stimulating pancreatic secretion by means of a standardized test meal. The secretion produced is collected using a probe, distal end of which is placed in the second part of the duodenum.

Göran Lundh, a surgeon at the University of Lund in Stockholm, published in 1962 the description of a technique for studying pancreatic exocrine function using a test meal to stimulate exocrine pancreatic secretion.[31] This type of test had previously been described by C.W. McClure (1937) but sunk into oblivion with the introduction of the secretin test by the Frenchman Maurice Chiray, which was later perfected by the Swede Henrik Olof Langerlöf in 1942. Lundh revitalized the use of test food in order to avoid the drawbacks of the secretin test.

Mayo-Robson's sign

Painful spot located at the left costovertebral angle that becomes evident in cases of acute pancreatitis.

Arthur William Mayo-Robson (Filey [Yorkshire, Great Britain] 1853–1933), the son of a pharmacist, studied at the Leeds School of Medicine. He earned the title of surgeon in 1884 while working at Leeds General Infirmary. He was also professor of surgery at Victoria University between 1890 and 1899. He moved to London in 1902 where he was appointed Professor Emeritus of the University. Mayo-Robson served in World War I and later in the campaigns of Gallipoli and Egypt, reaching the rank of Colonel of the British Army. He earned several honorary distinctions, among them Knight Commander of the Order of the British Empire in 1919 and Knight of the Legion of Honour of France in 1921.

He wrote numerous articles and several books on abdominal surgery, including *Diseases of the pancreas and their surgical treatment* in 1902 and *The pancreas, its surgery and pathology* in 1907. He died in Seale, near London, at the age of 80.[32,33]

Meltzer–Lyon test

A test used to identify biliary microlithiasis as the cause behind acute pancreatitis or bile duct disease. It consists of injecting a concentrated solution of magnesium sulfate through an Einhorn tube, the distal end of which has been placed in the second part of the duodenum, causing relaxation of the sphincter of Oddi and contraction of the gallbladder. Between 10 and 30 min later, a thick, dark bile called bile B is obtained through the probe, which, under the microscope, allows the identification of cholesterol crystals, spherocytes or accumulations of calcium bilirubin. This technique was described by Samuel J. Meltzer in 1917[34] and Bethuel B.V. Lyon in 1919[35].

Samuel James Meltzer (Ponevyezh [Russia] 1851–1920) was born into a Jewish family. He graduated in medicine and physiology from the University of Berlin in 1882 and a year later emigrated to the USA, where he conducted research at the laboratory of William H. Welch at the College of Physicians and Surgeons. In 1903, Samuel Flexner (1863–1946), an American pathologist and bacteriologist, invited him to direct the Department of Physiology and Pharmacology of the Rockefeller Institute, a position he held until a year before his death.

Bethuel Boyd Vincent Lyon (Erie [Pennsylvania, USA] 1880–1953) earned a degree in medicine from Johns Hopkins University in 1907 and trained as an intern at the German Hospital of Philadelphia. In 1910, he started work at the Jefferson Medical College where he held various positions until his retirement in 1946. At this establishment, he started the Outpatient Gastroenterology Clinic, which is highly specialized in biliary tract disorders. Lyon also published two important books on the subject, *Non-surgical drainage of the gall tract* in 1923 and *Atlas on biliary drainage microscopy* in 1935, becoming president of the American Gastroenterological Association in 1934. He died of coronary thrombosis in 1953.[36]

Nardi test

Also called the morphine-neostigmine provocation test for identifying sphincter of Oddi dysfunction and papillitis. The administration of these substances causes acute pain in the right hypochondrium and even an increase in amylasaemia in case of sphincter dysfunction. Described by Nardi and Acosta in 1966,[37] it is not very specific and is not used today.

George L. Nardi (1923–1989) was an American surgeon who studied medicine at the University of Chicago, graduating in 1944. He worked at the Massachusetts General Hospital in Boston until his death from cancer in 1989.

Oddi, sphincter of

A set of longitudinal and circular fibres that surround the distal end of the bile and pancreatic duct.

In 1887, *Ruggero Oddi* (Perugia [Italy] 1866–1913) published *Archives Italiennes de Biologie*, when he was still a student, where he described the anatomical area located in the terminal part of the common bile duct. However, the sphincter mechanism surrounding the terminal portion of the common bile duct[38] is attributed to Francis Glisson (Bristol [England] 1597–1677), who was a professor of anatomy for 40 years at Cambridge, describing it in his 1654 book *Anatomia hepatis*. Apparently, this description had been forgotten for over two centuries.

Partington–Rochelle procedure

Surgical procedure described in 1960 by Philip F. Partington and Robert E.L. Rochelle,[39] comprising a latero-lateral pancreaticojejunostomy (longitudinal opening of the duct of Wirsung up to a distance of 1 cm from the duodenal margin and the posterior latero-lateral anastomosis to a defunctionalized jejunal loop in Roux-en-Y). It is used for the treatment of recurrent chronic pancreatitis with dilatation of the duct of Wirsung.

Philip F. Partington and *Robert E.L. Rochelle* were working at the Veterans Hospital in Cleveland (Ohio) when they published the results of this surgical procedure in 1960, which is a modification of another similar technique described by Puestow–Gillesby two years earlier. This procedure avoided the splenectomy and resection of the pancreatic tail that was performed in the Puestow procedure. Philip F. Partington studied at Harvard and was one of the founding members of the Cleveland Surgical Society in 1949, becoming president of said society in 1955.

Puestow–Gillesby procedure

Procedure described by Charles B. Puestow and William T. Gillesby for the treatment of recurrent chronic pancreatitis when there is dilatation of the pancreatic duct. It consists of a longitudinal incision along the anterior face of the duct of Wirsung, onto which a longitudinally opened defunctionalized jejunal loop is sutured. A pancreatic tail resection and splenectomy are added.[40]

Charles B. Puestow (1902–1973) and *William T. Gillesby* (1905–1989), surgeons at the Hines Veterans Hospital (Illinois), published in 1958 their experience on the results of a new surgical procedure performed on 21 patients with recurrent chronic alcoholic pancreatitis for the treatment of pain, whereby the pancreatic duct is completely drained to the intestine. Two years later, Philip F. Partington and Robert E.L. Rochelle published a modification to the procedure, making it less aggressive.

Purtscher's retinopathy

Purtscher's retinopathy is an uncommon complication of acute alcoholic pancreatitis, characterized by the appearance of cotton wool spots and haemorrhages around the optic disc. Its appearance responds to ischaemic phenomena in the posterior retinal pole due to fat or air microemboli in retinal arterioles and capillaries. This complication is not related to a worse prognosis of acute pancreatitis and the evolution of retinopathy is usually favourable, with the disappearance of ophthalmic lesions and normalization of visual acuity at 4–6 weeks in most cases. However, residual lesions may occasionally remain, especially if optic atrophy occurs. It most frequently occurs in severe head or chest trauma, although cases of systemic lupus erythematosus, dermatomyositis, chronic renal failure, AIDS and amniotic fluid embolism have also been described.[41]

Othmar Purtschner (Schwaz [Tyrol, Austria] 1852–1927) studied medicine in Innsbruck, completing his training in Paris, London, Berlin and Vienna. He studied the effects of copper on the eye (sunflower cataract), erythropsy and described what he called traumatic retinopathy, which later became his eponym.[42]

Ranson criteria

A set of factors that has been used to predict the severity of acute alcoholic pancreatitis, but which was later slightly modified to assess pancreatitis of biliary origin. This assessment system was introduced in 1974[43] and is based on the measurement of 11 factors, five assessed on admission and six 48 h later. The presence of three or more of these factors predicts an increased risk of death or disease severity, with a sensitivity of 60–80%.

John H. Ranson (Bangalore [India] 1938–1995), the son of a missionary, graduated from Oxford University in 1960. He began working at the New York University Medical School in 1969, where he became director of the Division of Surgery in 1992. Alongside Jeffrey Glazer, Ranson also published the book *Acute Pancreatitis* (Saunders, 1988), which enjoyed great success among gastroenterologists. He died due to complications from a bone marrow transplant for myeloma.

Roux-en-Y anastomosis

Gastrointestinal or enteroenteric Y-shaped anastomosis.

Cesar Roux (Mont-la-Ville [Switzerland] 1857–1934) studied medicine at the University of Bern and, after receiving his doctorate in 1880, worked at the city's *Inselspital* as an assistant to Emil Theodor Kocher (see Kocher's manoeuvre), specializing in surgery. In 1887, he was named head of the Surgery Department at the University of Lausanne *Kantonhospital*. In 1897, he described the ''Y'' anastomosis in gastric cancer surgery in order to avoid postgastrectomy sequelae such as gastritis and alkaline reflux oesophagitis.[62] This type of anastomosis has also been used to drain various organs such as the biliary tract, pancreas and oesophagus. In 1904, the Frenchman Ambrose Monprofit (1857–1922) introduced Roux-en-Y cholecystojejunostomy and, four years later, Swede Robert Dahl described Roux-en-Y hepaticojejunostomy.[63] These techniques made it possible to perform the resection of the pancreatic head together with the portion of the intrapancreatic bile duct.

Santorini, duct of

An accessory pancreatic duct that drains secretions from the pancreatic head to the duodenum. It usually connects to the duct of Wirsung, but in 10% of cases it flows, regardless of this, into the duodenum through the minor papilla or Santorini caruncle. It was first described in 1724.

Giovanni Domenico Santorini (Venice [Italy] 1681–1737), the son of a pharmacist, studied medicine in Padua and Bologna and graduated in Pisa in 1701. He later returned to Venice where he was named professor of anatomy at the Physicomedical College, a position he held from 1706 to 1728. In 1724, he published his book, *Observationes anatomicae*, in which he described the accessory pancreatic duct that bears his name. His findings described what is now known as *pancreas divisum*.[44] His name is linked to several other eponyms: *Santorini's concha* (supreme nasal concha), *Santorini's cartilage* (corniculate cartilage of the larynx), *Santorini's plexus* (plexus of veins in the vena cava) and *Santorini's muscle* (bundle of muscles around the mouth).[45]

Shwachman–Diamond syndrome

A rare disease (1/100,000 births) that is transmitted by autosomal recessive inheritance and which is characterized by the presence of exocrine pancreatic insufficiency (it is the second most frequent cause of congenital pancreatic insufficiency in childhood after cystic fibrosis) and variable degrees of haematological (cyclic neutropaenia) and skeletal (metaphyseal dysostosis and growth retardation) involvement. It was first described in 1964.[46]

Harry Shwachman (Boston [Massachusetts, USA] 1910–1986) graduated from the Massachusetts Institute of Technology in 1932. He directed the clinical laboratory of Boston Children's Hospital from 1946 to 1971, when he founded the Chronic Nutrition Clinic and was named its director. Shwachman was also a major authority on cystic fibrosis. He died in 1986 from a stroke.[47]

Louis Klein Diamond (Kishinev [Russia] 1902–1999) was an American paediatrician of Russian origin. His family emigrated to the USA in 1904. He was known as the father of paediatric haematology. He studied at Harvard University where he graduated in 1923, receiving a doctorate from the university in 1927. Diamond studied paediatrics at the Boston Children's Hospital under the auspices of Kenneth Blackfan, with whom in 1932 he identified foetal erythroblastosis, a haemolytic disease of the newborn, and Gardner–Diamond syndrome (painful purpura that can occur with gastrointestinal, urinary, cerebral and articular haemorrhages). Previously, in 1930, he described thalassaemia. He also developed various chemotherapy methods for the treatment of leukaemia in children and studied disorders related to the Rh factor.[48]

Sister Mary Joseph nodule

A nodular umbilical lesion that results from cutaneous metastasis of an intra-abdominal neoplasm, including pancreatic cancer. *Sister Mary Joseph* (Rochester [USA] 1856) was the first to draw attention to the presence of this nodule. She worked as a theatre nurse for brothers William and Charles Mayo, the founders and surgeons of the clinic that bears their name. In 1949, Hamilton Bailey (Bishopstoke [Hampshire, Great Britain] 1894–1961)[24] used this eponym in the eleventh edition of his manual *Physical signs in clinical surgery*.

Trousseau's syndrome

Migratory thrombophlebitis affecting superficial veins in uncommon sites (chest and arms) associated with pancreatic and lung cancer.[49] It should not be confused with the Trousseau sign (described by the same author), which corresponds to tetany caused by hypocalcaemia.

Armand Trousseau (Tours [France] 1801–1867) began his medical studies at Tours General Hospital, going on to finish them in Paris where he obtained his doctorate in 1825. About four years, later he travelled to Gibraltar as a member of a commission to research yellow fever. In 1832, he worked at the *Hôtel-Dieu* and that same year he received an award from the Academy. In 1839 he was named a doctor at the Hôpital St. Antoine and professor of Therapeutics and Pharmacology at the Paris School of Medicine. In 1860, Trousseau described the syndrome that bears his name and which he diagnosed in himself in 1867 when he fell ill with pancreatic cancer, leading to his death.

Vater, papilla of

Prominence at the level of the second part of the duodenum, into which the common bile duct flows, sometimes in conjunction with the main pancreatic duct. Ampulomas may develop and gallstones can become embedded inside it, potentially leading to pancreatitis.

Abraham Vater (Wittenberg [Germany] 1684–1751), the son of a distinguished professor of anatomy, studied philosophy and medicine in his hometown, graduating from the University of Leipzig in 1710. In 1733, he was named professor of anatomy following the death of his father. In 1720, he described the duodenal papilla, which later received his eponym,[50] although some authors attribute this to Giovanni D. Santorini,[51] while others claim that Samuel Collins (1618–1710) had already described it in humans and dogs in 1685. Vater founded the anatomical museum of the University of Wittenberg. In 1721, he was named a member of the Royal Society of London and seven years later a member of the Prussian Academy of Sciences.[12]

Verner–Morrison syndrome

Very rare syndrome (1/1,000,000 individuals) characterized by watery diarrhoea, hypokalaemia and achlorhydria, caused by a pancreatic neuroendocrine tumour producing vasoactive intestinal peptide.

John Victor Verner (Greenville [North Carolina, USA] 1927), an American internist, and *Ashton Byrom Morrison* (1922), an American pathologist of Irish origin, who worked at the Rochester School of Medicine and Dentistry, described the syndrome that bears their name in 1958,[52] although one year earlier British physicians W.M. Priest and M.K. Alexander had described a similar syndrome.[53] This clinical

picture has been given several names since its first description in 1958, such as pancreatic cholera, WDHA syndrome (from Watery, Diarrhoea, Hypokalaemia, Achlorhydria) and watery diarrhoea syndrome. Moreover, in 1973, Stephen Robert Bloom (Maidstone [Great Britain] 1942) and Julia Margaret Polak (Buenos Aires [Argentina] 1939–2014) called it vipoma.[54]

Von Hippel–Lindau syndrome

A rare inherited disease that is transmitted with an autosomal dominant nature as a result of a mutation in the two VHL alleles. It is characterized by an increased predisposition to the formation of tumours in the kidney, the central nervous system (especially the cerebellum) and, most commonly, the retina. At the pancreatic level, it presents multiple cysts and tumours that may be neuroendocrine. The disease was described independently by two authors (Eugen von Hippel and Arvid Lindau) and has been given several other names, such as cerebellarretinal familial angiomatosis, haemangioblastomatosis and retinal and cerebellar angiofacomatosis.

Eugen von Hippel (Königsberg [Prussia] 1867–1939), a German ophthalmologist, was the son of the founder and head of the Göttigen University Eye Clinic. He studied at the best schools in Giessen, Freiburg, Berlin, Heidelberg and Göttingen, achieving his doctorate in medicine in 1890. He studied the speciality of ophthalmology at the University of Heidelberg under Theodor Leber, who was his associate professor from 1892 to 1909. Von Hippel finally settled in Göttigen at the University founded by his father. He was enthusiastic about studying eye formation disorders, including hydrophthalmus (a form of glaucoma), corectopia (displacement of the pupil) and congenital cataracts, as well as retinal angiomatosis, which would go on to be known as von Hippel's disease, the description of which he published in 1904.[55,56]

Arvid Lindau (Malmö [Sweden] 1892–1958) was a pathologist and bacteriologist. He studied medicine at Lund University and bacteriology at Copenhagen and Harvard. In 1926, he described the association between retinal angiomatosis and cerebellar haemangiomas, calling it ''angiomatosis of the central nervous system''. This description was published the following year.[57] In 1933, he succeeded Professor John Forssam (1868–1947) as the chair of pathology and bacteriology at Lund.

In 1964, the international medical community decided to call this disease von Hippel–Lindau syndrome.

Walzel's sign

This is the appearance of *livedo reticularis* in the thorax, abdomen or flank due to the action of trypsin on the vessels supplying the skin, which prevents it from having adequate vascularization. It was first described in 1927.[58]

P. Walzel was an Austrian surgeon especially interested in the pathology of the bile duct and its consequences, who in 1927 described a cutaneous cyanotic lesion (*livedo reticularis*) related to acute pancreatitis. Previously, Hansemann (1889) and Halsted (1901) had already observed bluish skin changes that were shown to be caused by subcutaneous fat necrosis.

Whipple procedure

See Kausch–Whipple procedure.

Whipple triad

The Whipple triad defines hypoglycaemia and comprises the existence of low levels of glycaemia (after fasting or intense physical exercise), symptoms of hypoglycaemia coinciding in time with low blood glucose levels and the improvement or disappearance of symptoms on correcting the hypoglycaemia. This triad is observed in cases of insulinoma.

Allen Oldfather Whipple (1885–1963; Urmia, Persia) (see: Kausch–Whipple procedure) published in 1938 the characteristics of the triad that bears his name[59] and in 1944 his personal casuistry of 39 cases of insular tumours.[60]

Wirsung, duct of

Main pancreatic duct leading to the second part of the duodenum along with or independently of the common bile duct.

Johann Georg Wirsung (Augsburg [Germany] 1589–1643) emigrated to Padua and studied at the University there. He worked as an anatomist in the city and, in 1642, described the main pancreatic duct. He construed that it was an artery or a vein, although he did doubt this as he had never seen blood inside of it. He reported his finding in a letter to the reputed Parisian anatomist Jean Riolano with whom he had studied before moving to Padua. A year after his discovery, Wirsung was assassinated and his teacher, Johann Wesling, and a student named Giacomo Cambier were accused of the murder but later absolved. The motive for the murder was rumoured to have been jealousy.[61] Wirsung's finding is considered by many authors as the starting date of Pancreatology.

Zollinger–Ellison syndrome

A rare clinical entity characterized by the appearance of multiple torpid peptic ulcers, generated by gastric hypersecretion stimulated by an excess of gastrin secreted by the non-β cells of a pancreatic neuroendocrine tumour called a gastrinoma.

Robert Milton Zollinger (Millersport [Ohio, USA] 1903–1992) studied medicine at Ohio University and graduated in 1927. He completed his surgery residency at Peter Bent Brigham Hospital in Boston with Harvey Cushing (1869–1939) and at the Western Reserve Hospital in Cleveland. From 1947 to 1974 he served as the head of the Surgery Department at Ohio University. Zollinger was also the editor of the American Journal of Surgery from 1958 to 1986. He especially stood out in the field of abdominal surgery and endocrine surgery.[64]

Edwin Homer Ellison (Dayton [Ohio, USA] 1918–1970), after graduating in medicine from Ohio University, studied biochemistry, before undertaking his surgery residency. He

worked as a surgeon and associate professor at Ohio University in the same department as Robert M. Zollinger, with whom he worked closely. In 1967, he was named professor of surgery at the Marquette School of Medicine in Milwaukee. Ellison committed suicide in 1970 when he was still in the position.

In 1955, Robert Milton Zollinger and Edwin Homer Ellison described two cases of young women with jejunal ulcers associated with a non-β islet cell pancreatic tumour.[65] One year after this publication, Ben Eiseman (St. Louis [Missouri, USA] 1917–2012) proposed the eponym of Zollinger–Ellison syndrome to refer to this clinical picture.[66] However, a few more rigorous authors call it Strøm–Zollinger–Ellison syndrome since it was Roar Strøm (Oslo [Norway] 1903–1958) who in 1952 published an initial description.[67]

In 1964, Roderick Alfred Gregory, professor of physiology at the University of Liverpool, and his colleague Hilda J. Tracy defined the chemical structure of gastrin and found that it was produced in excess in the tumours of patients with this syndrome.

Addendum

In spite of the exhaustive bibliographical search, it was not possible to obtain biographical data for the figures who gave their names to the following three eponyms: *Guyon's point* (painful point located at the angle between the 12th left rib and the spinal line in cases of acute pancreatitis or kidney disease); *Gobiet's sign* (acute dilatation of the transverse colon along with distension of the stomach due to inflammation of the mesos, secondary to acute pancreatitis) and *Preioni's Point* (located two fingers above and one to the left of the navel, which is painful in acute pancreatitis).

The author asks readers to be lenient if they notice the absence of any other eponym that could not be identified.

Conflicts of interest

The author declares that he has no conflicts of interest.

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