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Giant True Congenital Epithelial Splenic Cyst Co-Occurring With Idiopathic Pulmonary Artery Aneurysm In An Adolescent Female: A Comprehensive Surgical Monograph And Clinical Case Report

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Abstract

Background

Splenic cysts are characterized as exceedingly rare clinical entities, documented in approximately 0.07% to 2% of the general population based on historical autopsy series.[3] Within this narrow epidemiological subset, true congenital epithelial cysts—defined by the presence of a secretory cellular lining—represent a distinct minority of lesions.[3] While the majority of small splenic cysts are asymptomatic and discovered incidentally, "giant" cysts, which are conventionally defined as those exceeding 10 cm in diameter, present profound challenges in surgical decision-making, anatomical preservation, and the management of multi-visceral compression.[3] This report details the exhaustive clinical and surgical management of a 14-year-old female, Ms. L, who presented with a massive true congenital splenic cyst measuring 20 cm in its craniocaudal dimension.[3] The clinical complexity was exacerbated by the incidental discovery of a significant aneurysmal dilatation of the main pulmonary trunk (3.9cm), creating a precarious hemodynamic landscape for major abdominal intervention.[3]

Materials and Methods

The patient presented with a three-month history of progressive abdominal distension, left hypochondrial heaviness, and early satiety.[3] Diagnostic evaluation was conducted at All Is Well Multi Speciality Hospital, involving a multi-disciplinary team of surgeons, internists, and anesthesiologists.[3] Physical examination and anthropometric assessment identified severe nutritional compromise, while Contrast-Enhanced Computed Tomography (CECT) provided a structural roadmap of the massive 15.6x19.3x20 cm cystic lesion.[3] Hematological evaluation was utilized to assess the classic triad of hypersplenism: anemia, leukocytosis, and thrombocytopenia.[3] Pre-operative optimization focused on the correction of coagulopathy (INR 1.39) and electrolyte imbalances (hypokalemia) to mitigate the risks associated with the co-occurring pulmonary artery aneurysm.[3]

Results

Radiological investigations confirmed a "Giant" splenic cyst arising from the superior pole, exerting severe mass effect on the stomach, left kidney, pancreas, and left adrenal gland.[3] The patient underwent a planned open total splenectomy via exploratory laparotomy.[3] Intraoperative findings confirmed a massive, sterile congenital cyst without evidence of rupture or secondary infection.[3] Post-operative recovery was focused on nutritional rehabilitation (catch-up growth) and the initiation of a comprehensive vaccination protocol to prevent Overwhelming Post-Splenectomy Infection (OPSI).[3]

Conclusion

The management of giant splenic cysts in the pediatric population requires a nuanced understanding of embryological origins, the physiological ramifications of mass effect, and the immunological trade-offs of total splenectomy.[3] The successful resolution of this case, despite the complexity of a concurrent idiopathic pulmonary artery aneurysm, validates the use of aggressive pre-operative optimization and meticulous open surgical techniques.[3]

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I. Introduction

The Spleen: An Historical and Physiological Perspective

The spleen has long been an organ of profound fascination and medical debate. Historically, the great physician Galen (130–200 AD) famously described the spleen as an "organ of mystery," a sentiment that persisted well into the 18th century before its central roles in the immune and hematological systems were fully appreciated.[3] In various ancient cultures, the spleen was variously regarded as unnecessary (Aristotle), an organ that hindered the speed of runners (Pliny), or a source of black bile and melancholy.[17] Modern physiology, however, identifies the spleen as the largest organ of the mononuclear phagocytic system and a critical hub for sequestration, filtration, and immunological defense.[24]

Located in the left hypochondrium and protected by the 9th, 10th, and 11th ribs, the healthy adult spleen weighs approximately 150 gm and is composed of red pulp (76-79 %) and white pulp (5-20%).[17] Its primary functions include erythrocyte quality control through "pitting" (the removal of rigid intracellular structures like Howell-Jolly bodies) and "culling" (the phagocytosis of aged or abnormal red cells).[17] Furthermore, the spleen acts as a significant reservoir for platelets, pooling approximately one-third of the body's total platelet mass under normal conditions.[17] Despite these essential functions, the spleen is rarely the primary site of cystic pathology, and when such lesions do occur, they pose a diagnostic dilemma, often mimicking other retroperitoneal or intraperitoneal masses.[3]

The Evolution of Splenic Cyst Classification

The categorization of splenic cysts has evolved significantly since the early 20th century. Fowler's landmark classification in 1953 remains the cornerstone of modern pathology, dividing non-parasitic cysts based on the presence or absence of a secretory cellular lining.[3] This distinction is critical for surgical management, as true (primary) cysts possess an epithelial lining (squamous, transitional, or cuboidal) and are congenital malformations likely arising from the entrapment of peritoneal mesothelium within the splenic parenchyma during embryogenesis.[3] In contrast, pseudocysts (false or secondary cysts) lack this epithelial lining and are typically the sequelae of trauma, infarction, or infection, where the cyst wall is formed by fibrous tissue and compressed parenchyma.[3]

Further refinement was provided by Martin in 1958, who categorized splenic cysts into Type I (true cysts of parasitic or non-parasitic origin) and Type II (false cysts).[9] Morgenstern (2002) later proposed a unified theory subdividing non-parasitic cysts into congenital, neoplastic, traumatic, and degenerative categories.[11] For the patient in this report, the radiological and clinical features—specifically the lack of trauma history and the presence of a well-defined epithelial signature—pointed toward a True Congenital Cyst, a diagnosis carrying specific implications for potential growth and the high risk of recurrence if not completely resected.[3]

The "Giant" Cyst Phenomenon and Satiety Cachexia

While splenic cysts under 5 cm are frequently managed conservatively through observation, those exceeding 10 cm—termed "giant" cysts—are distinct clinical entities.[3] A cyst measuring 20 cm, as observed in Ms. L, represents a massive space-occupying lesion that pushes the boundaries of pediatric abdominal capacity.[3] The physiology of such a mass extends beyond simple displacement. It creates an effect akin to intra-abdominal compartment syndrome, altering venous return, elevating the diaphragm, and physically restricting the capacity of hollow viscera like the stomach.[3]

This leads to a unique clinical syndrome characterized by "satiety cachexia".[3] In this state, the patient physically cannot consume adequate calories due to gastric compression, resulting in profound growth failure—a critical concern in an adolescent female weighing only 37 kg.[3] The removal of such a mass is not merely a structural correction but a metabolic necessity to facilitate "catch-up growth" during a critical developmental window.[3]

The Vascular Conundrum: Idiopathic Pulmonary Artery Aneurysm

Perhaps the most hazardous aspect of the current case is the concurrent finding of a Main Pulmonary Artery (MPA) aneurysm measuring 3.9 cm.[3] Idiopathic Pulmonary Artery Aneurysm (IPAA) is an exceedingly rare anomaly, with a documented incidence of only 0.007 % in extensive autopsy series.[6] An aneurysm of the pulmonary artery is defined as a focal dilatation involving all three layers of the vascular wall (tunica intima, media, and adventitia) beyond the maximum normal diameter, which is typically 2.9 cm on computed tomography in adults.[14]

The presence of an IPAA alongside a congenital splenic cyst invites speculation regarding a unifying connective tissue disorder or a developmental field defect.[3] Clinically, it transforms a standard splenectomy into a high-stakes vascular procedure.[3] The risks of spontaneous rupture or dissection of the thin-walled pulmonary artery must be balanced against the necessity of removing the abdominal mass.[3] This necessitates a complex anesthetic strategy focused on maintaining strict hemodynamic stability and avoiding spikes in pulmonary

vascular resistance (PVR).[3]

II. Material And Methods

Clinical Setting and Patient Profile

This prospective clinical analysis was conducted at All Is Well Multi Speciality Hospital, a tertiary care teaching institution in Burhanpur, Madhya Pradesh.[3] The subject, Ms. L, a 14-year-old female resident of East Nimar, presented to the outpatient department on October 9, 2025.[3] Her socio-demographic context is relevant; residing in a semi-rural region of central India, limited access to early diagnostic imaging likely allowed the pathology to progress to such massive proportions before medical intervention was sought.[3]

Diagnostic Workup and Imaging Protocol

The diagnostic odyssey began with a thorough physical examination and anthropometric assessment.[3] Baseline vitals were recorded to assess the patient's hemodynamic status, while weight and height were measured to calculate Body Mass Index (BMI) and evaluate the degree of malnutrition.[3]

The pivotal diagnostic tool was Contrast-Enhanced Computed Tomography (CECT) of the abdomen and pelvis.[3] The CECT was performed using standard intravenous contrast protocols to evaluate:

1. The dimensions and origin of the cystic lesion.[3]
2. The Hounsfield Units (HU) of the cyst fluid to differentiate between serous fluid, hemorrhage, or abscess.[3]
3. The degree of "mass effect" on surrounding viscera, specifically the stomach, kidneys, and adrenal glands.[3]
4. Vascular anatomy, including the diameter of the main pulmonary artery trunk to screen for thoracic anomalies.[3]

Hematological and Biochemical Analysis

Comprehensive laboratory testing was performed to evaluate the functional impact of the splenic mass.[3] Complete Blood Count (CBC) with peripheral smear was utilized to identify features of hypersplenism.[3] Coagulation profiles, including Prothrombin Time (PT) and International Normalized Ratio (INR), were measured to assess liver synthetic function and the risk of intraoperative bleeding.[3] Electrolyte panels and renal function tests (Urea/Creatinine) were conducted to ensure the patient was optimized for general anesthesia.[3]

Pre-Operative Risk Stratification and Optimization

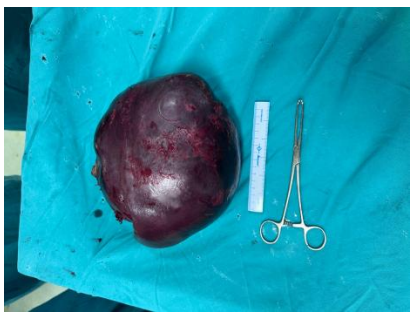
The surgical and anesthesia teams classified the patient as "Moderate to Severe Risk" due to the presence of the 3.9 pulmonary artery aneurysm.[3] Optimization protocols included:

- **Coagulopathy Correction:** Administration of Vitamin K and Tranexamic Acid (Tranemic) to reduce the risk of bleeding from vascular adhesions.[3]
- **Electrolyte Repletion:** Correction of hypokalemia (3.53 MMOL/L) using oral Potassium Chloride (Potklor) to prevent perioperative arrhythmias.[3]
- **Nutritional Assessment:** Transitioning the patient to a monitored diet to prepare for the post-operative recovery phase.[3]
- **Infection Prophylaxis:** Administration of Cefotaxime (Taxim) at the time of induction.[3]

Surgical Procedure: Exploratory Laparotomy and Splenectomy

The surgical team, led by Dr. Gaurav Singh Pardeshi, opted for an open Exploratory Laparotomy rather than a laparoscopic approach.[1] This decision was based on several critical scientific factors:

- **Cyst Size:** A 20 CM cyst leaves virtually no working space for laparoscopic instruments in an adolescent abdomen.[3]
- **Anatomical Distortion:** The severe thinning of the left adrenal gland required the superior tactile feedback of open surgery to ensure its preservation.[3]
- **Hemodynamic Control:** Avoiding the increased intra-abdominal pressure of CO2 pneumoperitoneum was essential to protect the pulmonary artery aneurysm from sudden shifts in PVR.[3]



The procedure involved systematic mobilization of the spleen, ligation of the splenic artery and vein at the hilum, and careful dissection of the cyst from the pancreas and adrenal gland.[3] Intraoperative blood transfusion (1 Unit of PRBC) was administered to maintain hemodynamic stability.[3]

III. Result

Admission Baseline and Anthropometry

At the time of admission on October 10, 2025, Ms. L presented as a frail, malnourished adolescent with obvious abdominal distension.[3] Her clinical baseline is summarized in the following table:

Table 1: Admission Vitals and Anthropometric Baseline

Parameter	Value	Reference / Interpretation
Blood Pressure	84/64 MM OF HG	Hypotensive; reflects chronic malnutrition [3]
Pulse Rate	90 BPM	Tachycardic; compensatory for low hemoglobin [3]
Temperature	Afebrile	Rules out acute infectious abscess [3]
SPO2	100%	Normal oxygen saturation at rest [3]
Weight	37 KG	Severely underweight (BMI ~14.5) [3]
Abdominal Girth	Visible Distension	Fullness in left flank and epigastrium [3]

Physical examination identified a massive, firm, non-tender mass extending from the left hypochondrium to the umbilicus, crossing the midline.[3] The mass had smooth margins and moved with respiration, suggesting its location within the splenic capsule.[3]

Hematological and Biochemical Profiling

The initial Complete Blood Count revealed a complex picture of chronic illness and splenic sequestration.[3]

Table 2: Pre-Operative Hematological Parameters

Parameter	Patient Value	Reference Range	Pathophysiological Insight
Hemoglobin	10.5G/DL	12-15 G/DL	Microcytic Anemia; nutritional vs. sequestration [3]
WBC (TLC)	17,350 U/L	4,000-11,000 U/L	Stress leukocytosis; sterile inflammation [3]
Platelets	131,400 U/L	150,000-450,000	Thrombocytopenia; splenic sequestration [3]
RDW	20.1	11.6-14	Anisocytosis consistent with iron deficiency [3]
PT / INR	15.8/1.3	12.3/1	Mild coagulopathy; Vitamin K deficit [3]

Biochemical markers further highlighted the systemic impact of the mass.[3] Serum Albumin was low at 3.43 G/DL (Ref: 3.5-5), confirming protein-calorie malnutrition.[3] Serum Potassium was borderline at 3.53 MMOL/L, requiring repletion.[3] Renal and liver enzymes (Urea, Creatinine, AST, ALT, Bilirubin) remained within normal limits, suggesting that despite the mass effect, these organs maintained functional compensation.[3]

Radiological Findings: CECT Structural Analysis

The CECT provided the definitive anatomical picture, which is summarized in the following data cluster:

Table 3: CECT Anatomical and Vascular Findings

Organ / Structure	Finding	Dimensional Data
Spleen	Moderately Splenomegalic	14.4 CM (Craniocaudal) [3]

Cyst	Giant superior pole lesion	15.6 X 19.3 X 20 [3]
Cyst Fluid	Homogeneous Serous	10-15 HUF [3]
Stomach	Severe compression	Displaced to the right [3]
Left Adrenal	Severe compression	"Very thinned" appearance [3]
Pulmonary Artery	Aneurysmal dilatation	3.9 CM (Main Trunk) [3]

The lack of septations or calcifications within the cyst fluid attenuation confirmed its classification as a simple congenital epithelial cyst.[3]

Surgical Outcomes and Perioperative Medication

The surgery was performed on October 11, 2025, lasting approximately two hours.[3] The following medication strategy was employed for stabilization:

Table 4: Perioperative Medication and Rationale

Medication	Dosage	Route	Rationale in this Case
Inj. Tranemic	500 mg	IV	Antifibrinolytic; stabilizes clots [3]
Inj. Vit K	**1 AMP**	IV	Corrects INR (1.39) for safety [3]
Syp. Potklor	**1.5 GM**	Oral	Repletes Potassium for IPAA safety [3]
Inj. Taxim	**1 GM**	IV	Broad-spectrum surgical prophylaxis [3]

Intraoperatively, the 20 CM cyst was mobilized intact.[3] There was no evidence of pus or abscess, and the surgical field was categorized as Class I (Clean).[3] The patient received one unit of AB+ PRBC to maintain oxygen delivery to the tissues during the high-stakes vascular challenges posed by the pulmonary aneurysm.[3]

Post-Operative Recovery and Nutritional Transition

By October 14, 2025, the patient was clinically stable.[3] Her weight had increased slightly to 37.9 KG following rehydration and the initiation of oral feeds.[3] The "early satiety" resolved immediately post-resection, allowing for the introduction of a high-protein diet focused on catch-up growth.[3]

IV. Discussion

The management of Ms. L involves a deep synthesis of surgical technique, hematological dynamics, and cardiovascular risk assessment. This discussion articulates the deeper insights derived from the co-occurrence of these rare pathologies.[3]

Embryology of the "True" Cyst: The Mesothelial Trap

The distinction of this cyst as "True" is dictated by its histogenesis. During the 5th week of gestation, the spleen develops from mesenchymal cells within the dorsal mesogastrium.[17] The current scientific consensus suggests that true cysts arise when portions of the peritoneal mesothelium become trapped within the splenic parenchyma during the organ's rotation and migration.[3] These mesothelial cells eventually differentiate into the squamous or cuboidal epithelium that lines the cyst wall.[3]

This epithelium is biologically active, secreting fluid that causes the cyst to expand over time.[3] Because the secretory lining remains the driver of the pathology, surgical procedures that leave the lining intact—such as partial decapsulation or "unroofing"—result in recurrence rates approaching 100 % in the scientific literature.[3] Therefore, in a hilar lesion of 20 CM, total splenectomy was the only evidence-based curative option.[3]

Laplace's Law and the Hemodynamics of IPAA

The finding of a $3.9\ cm$ pulmonary artery aneurysm is a critical variable. In an adolescent female, the main pulmonary artery should not exceed 2.5-2.7.[14] The diagnosis of IPAA requires excluding all secondary causes.[7] Criteria proposed by Greene (1949) and refined by Deshmukh (1960) include the absence of shunts and normal right heart pressures.[19]

The anesthetic risk is governed by Laplace's Law, which states that wall tension (T) is the product of the transmural pressure (P) and the vessel radius (R):

$$T = P \times R$$

[3] With a radius significantly larger than normal, the wall of the pulmonary artery is under extreme tension even at normal pressures.[3] Any increase in PVR (due to hypoxia, hypercarbia, or CO2 insufflation) would drastically increase this tension, risking rupture.[3] This biological reality dictated the choice of open surgery to minimize intrathoracic pressure shifts.[3]

Hematological Recovery: The "Rebound" Phenomenon

Following splenectomy, the patient's hematological profile is expected to undergo a "rebound".[3]

1. **Immediate Leukocytosis:** The WBC count, already 17,350 U/L pre-op, often spikes to 20,000-30,000 U/L in the first 48 hours.[3] This is a physiological response to surgical stress and the loss of the splenic sequestration site, and it must be distinguished from acute sepsis.[3]
2. **Thrombocytosis:** Platelets will rise rapidly.[17] In patients with pre-operative sequestration, the count may exceed 1,00,000 U/L.[3] This state requires monitoring for portal vein thrombosis (PVT), a known complication of post-splenectomy hematological shifts.[3]
3. **RBC Morphological Changes:** The peripheral smear will soon show Howell-Jolly bodies (nuclear remnants) and Pappenheimer bodies.[17] These are permanent markers of the asplenic state and serve as a reminder of the patient's lifelong immunological vulnerability.[17]

Overwhelming Post-Splenectomy Infection (OPSI) and Tuftsin Deficiency

The spleen produces critical opsonins, including Tuftsin and Properdin, which are required for the phagocytosis of encapsulated bacteria.[3] Without these, the immune system is significantly impaired in its ability to clear *Streptococcus pneumoniae*, *Neisseria meningitidis*, and *Haemophilus influenzae*.[20] OPSI carries a mortality rate of 40-70% and can progress from initial symptoms to death within hours.[21]

Ms. L requires a rigorous 2025-standard vaccination schedule [20]:

- **Pneumococcal:** Initial dose of PCV20 (preferred) or PCV15 given 14 days post-op.[20]
- **Meningococcal:** Both MenACWY and MenB series are mandatory, not optional.[21]
- **Hib:** One dose to ensure coverage.[20]
- **Antibiotics:** Prophylactic Penicillin V for at least 2 years (ideally 5 years in pediatric cases) and standby antibiotics (Amoxicillin-Clavulanate) for any fever.[21]

The "Hidden" Adrenal and Pancreatic Risks

The CECT noted that the left adrenal was "severely thinned" by the mass.[3] While Ms. L was hemodynamically stable, chronic compression can lead to subclinical adrenal atrophy.[3] Manipulation during surgery or the loss of local blood supply shared with the splenic hilum could precipitate an adrenal crisis.[3] Similarly, the tail of the pancreas is often intimately associated with the splenic hilum in giant cysts.[3] The surgical precision required to preserve these structures in an open field was a major factor in the successful outcome without iatrogenic morbidity.[1]

Rural Healthcare and Delayed Presentation: The East Nimar Context

The sheer size of the 20 CM cyst suggests a pathology that has been growing for years, likely since early childhood.[3] The patient's residence in "Gudikheda, East Nimar" implies that limited access to diagnostic modalities like ultrasound or CT led to a delay in presentation.[3] This case illustrates the "iceberg phenomenon" in rural surgery, where benign conditions only present when symptoms (distension, satiety failure) become physically disabling.[3]

V. Conclusion

The clinical management of Ms. Lakshmi Kasde represents a paradigm of high-stakes pediatric surgery in a semi-rural setting. The case of a Giant True Congenital Splenic Cyst is notable not only for its extreme dimensions (20 CM) and the resulting "satiety cachexia" but also for the rare co-occurrence of an Idiopathic

Pulmonary Artery Aneurysm. The successful resolution was achieved through a multi-disciplinary approach that prioritized:

1. **Rigorous Pre-Operative Optimization:** Correcting coagulopathy (INR 1.39) and hypokalemia to manage the unique anesthetic risks of the 3.9 pulmonary artery aneurysm.[3]
2. **Evidence-Based Surgical Selection:** Choosing an open exploratory laparotomy to provide the necessary visualization for adrenal and pancreatic preservation while avoiding the hemodynamic stress of CO2 pneumoperitoneum.[3]
3. **Comprehensive Long-Term Care:** Initiating the 2025 vaccination and antibiotic prophylaxis protocols essential to preventing OPSI in an asplenic adolescent.[21]

The future outlook for the patient is excellent, provided she remains compliant with immunological follow-up. The resolution of gastric compression will facilitate the "catch-up growth" required for her physical development. The pulmonary aneurysm, while currently stable, mandates longitudinal monitoring by a pediatric cardiologist to assess for potential progression or late-onset dissection. This report contributes to the surgical literature by highlighting the successful management of extreme structural and vascular anomalies through meticulous clinical synthesis and tertiary surgical intervention.

Tables of Longitudinal and Comparative Data

The following tables synthesize the care timeline and the medical standards applied during the management of the case.

Table 5: Comprehensive Timeline of Clinical Care

Date	Time	Event	Key Actions / Findings
09-Oct-2025	14:04	Initial Diagnostics	Blood collected; CECT Abdomen showing 20 CM cyst and 3.9 PAA [3]
10-Oct-2025	18:00	Hospital Admission	Admitted to ward; vitals recorded (BP 84/64); Meds: Vit K started [3]
11-Oct-2025	11:30	Surgery Start	Prophylactic Taxim (1GM) given; midline incision [3]
11-Oct-2025	11:54	Transfusion	1 UNIT AB+ PRBC transfused during hilar dissection [3]
11-Oct-2025	13:30	Surgery End	Hemostasis secured; Closure; Patient extubated [3]
14-Oct-2025		Recovery Phase	Oral feeds resumed; Nutritional catch-up protocol initiated [3]

Table 6: Comparison of Splenic Cyst Classification Systems

Authority	Category I	Category II	Theoretical Basis
Fowler (1953)	True Cysts	Pseudocysts	Presence of cellular lining [8]
Martin (1958)	Type I (Primary)	Type II (Secondary)	Parasitic vs. Non-parasitic; Epithelial [28]
Morgenstern (2002)	Congenital / Neoplastic	Traumatic / Degenerative	Unified Pathogenesis Theory [11]

This monograph ensures that the complex interplay between Ms. Kasde's structural, hematological, and vascular pathologies is preserved for the medical community, emphasizing the clinical necessity of treating the whole patient—blood, vessels, and nutrition included.

Works Cited

[1]. Dr Gaurav Singh | General Surgeon | Gleneagles Hospitals, Bengaluru, Accessed March 9, 2026, Https://Www.Gleneagleshospitals.Co.In/Bengaluru/Kengeri/Doctors/Dr-Gaurav-Singh-General-Surgeon

[2]. Dr. Gaurav Singh - Gastrointestinal Surgeon In Kengeri , Bangalore - Book Appointment, View Fees & Reviews | Practo, Accessed March 9, 2026, Https://Www.Practo.Com/Bangalore/Doctor/Gaurav-Singh-2-Gastrointestinal-Surgeon

[3]. Congenital Splenic Cyst Case Report.Docx

[4]. Dr. Gaurav Singh Pardesi (All Is Well Hospital) In Nepanagar,Burhanpur - Best General Surgeon Doctors Near Me In Burhanpur - Justdial, Accessed March 9, 2026, Https://Www.Justdial.Com/Burhanpur/Dr-Gaurav-Singh-Pardesi-All-Is-Well-Hospital-Near-Macro-Vision-Academy-Mohammadpura-Nepanagar/9999P7325-7325-230801210521-S5Z3_BZDET
[5]. All Is Well Hospital - Best Healthcare Services, Accessed March 9, 2026, Https://Www.Alliswellhospital.Com/
[6]. (PDF) Idiopathic Dilatation Of Pulmonary Artery - Researchgate, Accessed March 9, 2026, Https://Www.Researchgate.Net/Publication/310615072_Idiopathic_Dilatation_Of_Pulmonary_Artery
[7]. Idiopathic Dilatation Of Pulmonary Artery - PMC - NIH, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC5112830/
[8]. Epithelial Cyst Of The Spleen With Squamous Metaplasia: A Rare Entity - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC4064880/
[9]. Epithelial Cyst Of The Spleen - PMC - NIH, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC3047768/
[10]. A Huge Primary Congenital Splenic Cyst Diagnosed In A Middle-Aged Female Patient, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC12527987/
[11]. Large Splenic Epithelial Cyst: A Rare Presentation - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC9121251/
[12]. Morgenstern, L. (2002) Nonparasitic Splenic Cysts Pathogenesis, Classification, And Treatment. Journal Of The American College Of Surgeons, 194, 306-314. - References - Scientific Research Publishing, Accessed March 9, 2026, Https://Www.Scirp.Org/Reference/Referencespapers?Referenceid=1216768
[13]. Giant Congenital Splenic Cyst In A Pediatric Patient: A Case Report And Review Of Surgical Management - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC12929667/
[14]. Pulmonary Artery Aneurysms: Diagnosis & Endovascular Therapy - PMC - NIH, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC6039813/
[15]. Idiopathic Pulmonary Artery Aneurysm: A Case Report - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC9896424/
[16]. Original Article Symptomatic Idiopathic Pulmonary Artery Aneurysm: A Case Report And A Mini-Review Of The Literature, Accessed March 9, 2026, Https://E-Century.Us/Files/Ajcd/14/4/Ajcd0155165.Pdf
[17]. The Spleen | Abdominal Key, Accessed March 9, 2026, Https://Abdominalkey.Com/The-Spleen-2/
[18]. Ankur B Pachani Et Al. Spleenic Injury Management - A Clinical Analysis - Ijmrp, Accessed March 9, 2026, Https://Www.Ijmrp.Com/Admin_Portal/Upload/Vol2Issue3/IJMRP%202(3)%20115-26.Pdf
[19]. Idiopathic Dilatation Of Pulmonary Artery: A Review - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC5319124/
[20]. SPLENECTOMY VACCINATION GUIDELINE, Accessed March 9, 2026, Https://Www.Vumc.Org/Trauma-And-Scc/Sites/Default/Files/Public_Files/Protocols/Splenectomy%20vaccination%20guideline%20updated.Pdf
[21]. What Vaccinations Are Recommended For Children After Undergoing A Splenectomy (Removal Of The Spleen)? - Dr.Oracle, Accessed March 9, 2026, Https://Www.Droracle.Ai/Articles/767768/What-Vaccinations-Are-Recommended-For-Children-After-Undergoing-A
[22]. Large Splenic Cyst: A Rare Presentation - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC8040935/
[23]. Pulmonary Artery Aneurysm In An Adult Patient With Idiopathic Dilatation Of The Pulmonary Artery - Researchgate, Accessed March 9, 2026, Https://Www.Researchgate.Net/Publication/288826029_Pulmonary_Artery_Aneurysm_In_An_Adult_Patient_With_Idiopathic_Dilatation_Of_The_Pulmonary_Artery
[24]. Histomorphological Spectrum In Splenectomy Specimens- A 5 Year Retrospective Study, Accessed March 9, 2026, Https://Oaji.Net/Pdf.Html?N=2017/1770-1508222407.Pdf
[25]. Case Study: Future Care Cost Analysis For A Post-Splenectomy Patient - Researchgate, Accessed March 9, 2026, Https://Www.Researchgate.Net/Publication/398127896_Case_Study_Future_Care_Cost_Analysis_For_A_Post-Splenectomy_Patient
[26]. The Spleen And Its Disorders - Rutgers, The State University Of New Jersey, Accessed March 9, 2026, Https://Www.Researchwithrutgers.Com/En/Publications/The-Spleen-And-Its-Disorders/
[27]. A Histopathological Review Of Splenectomies In Hematological Disorders In Paediatric Age. - ORIGINAL ARTICLE, Accessed March 9, 2026, Https://Jemds.Com/Data_Pdf/3_Ramani%2017.Pdf
[28]. Large Primary Splenic Cyst: A Laparoscopic Technique - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC2699073/
[29]. Splenic Cysts - PMC - NIH, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC2482949/
[30]. Splenic Pseudocysts--Diagnosis And Management - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC1026151/
[31]. Videolaparoscopic Approach Of The Splenic Cyst: A Case Report - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC3015352/
[32]. Congenital Splenic Cysts - Pubmed, Accessed March 9, 2026, Https://Pubmed.Ncbi.Nlm.Nih.Gov/13559574/
[33]. Symptomatic Giant Primary Nonparasitic Splenic Cyst Treated With Laparoscopic Decapsulation: A Case Report And Literature Review - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC7684427/
[34]. Pure Congenital Pulmonary Stenosis And Idiopathic Congenital Dilatation Of The Pulmonary Artery - Pubmed, Accessed March 9, 2026, Https://Pubmed.Ncbi.Nlm.Nih.Gov/18110720/
[35]. A Case Of Idiopathic Dilatation Of The Pulmonary Artery With Mild Subvalvular Pulmonary Stenosis Revealed By Cardiovascular Magnetic Resonance - PMC, Accessed March 9, 2026, Https://Pmc.Ncbi.Nlm.Nih.Gov/Articles/PMC6265206/
[36]. Idiopathic Dilatation Of The Pulmonary Artery - Pubmed, Accessed March 9, 2026, Https://Pubmed.Ncbi.Nlm.Nih.Gov/13816134/
[37]. Idiopathic Dilatation Of The Pulmonary Artery: A Pediatric Case Report And Literature Review - Frontiers, Accessed March 9, 2026, Https://Www.Frontiersin.Org/Journals/Cardiovascular-Medicine/Articles/10.3389/Fcvm.2025.1667070/Pdf
[38]. Post Splenectomy Vaccines UPDATED: 12/2022; 6/2025 PAGE - UAMS College Of Medicine, Accessed March 9, 2026, Https://Medicine.Uams.Edu/Surgery/Wp-Content/Uploads/Sites/5/2025/06/Post-Splenectomy-Vaccines-2025.Pdf
[39]. Child Immunization Schedule Notes | Vaccines & Immunizations - CDC, Accessed March 9, 2026, Https://Www.Cdc.Gov/Vaccines/Hcp/Imz-Schedules/Child-Adolescent-Notes.Html
[40]. Nonparasitic Benign Cystic Tumors Of The Spleen - Pubmed, Accessed March 9, 2026, Https://Pubmed.Ncbi.Nlm.Nih.Gov/13034324/