

Supplemental Table 1 Characteristics of pediatric patients with splenic hamartomas

Patient #	Reference	Sex	Age in yr	Number of nodules	Lesion size in cm	Localization	Clinical signs and symptoms	Associated conditions	Abnormal laboratory findings	Diagnostics	Indication for surgery	Type of surgery	Follow-up
1	Wallach ^[13] , 1962	M	3.5	Single	5.4	N/A	Parotid swelling; fever; anorexia	/	N/A	N/A	N/A	OTS	N/A
2	Wexler ^[13] , 1964	M	4.0	Single	7.0	N/A	Splenomegaly	/	Anemia; proteinuria	N/A	N/A	OTS	N/A
3	Kuykenda ^[14] , 1977	M	0.9	Single	7.0	Lower pole	Splenomegaly; abdominal mass	Exchange transfusions at birth for RH incompatibility	Anemia	US: Solid mass; scintigraphy: Area of decreased uptake	Splenic mass	OTS	N/A
4	Silverman ^[5] , 1978	M	9.0	Single	10.0	Midportion	Hepatosplenomegaly	/	Microcytic anemia	Splenoportography: Avascular mass	Splenomegaly; hypersplenism; splenic mass	OTS with splenorenal shunt	Resolution of anemia
5	Huff ^[13] , 1979	M	4.0	Single	1.0	N/A	N/A	Wiscott-Aldrich-like syndrome; brain tumor	Thrombocytopenia	N/A	N/A	OTS	N/A
6	Iozzo ^[8,38,45] , 1980	F	12.0	Multiple	5.0	N/A	Hepatosplenomegaly; lymphadenopathy; fever; growth retardation	Recurrent infections	Pancytopenia; bone marrow hyperplasia	US: Homogeneous solid mass	Splenomegaly; hypersplenism	OTS	Resolution of symptoms
7	Iozzo ^[8,38,45] , 1980	M	9.0	Multiple	5.0	N/A	Hepatosplenomegaly; lymphadenopathy; fever; growth retardation	Recurrent infections	Pancytopenia; bone marrow hyperplasia	US: Homogeneous solid mass	Splenomegaly; hypersplenism	OTS	Resolution of symptoms
8	Seggara Llido ^[8,39] , 1984	M	4.5	Single	7.0	N/A	Splenomegaly	Immunodeficiency	Anemia; thrombocytopenia	N/A	Splenomegaly; hypersplenism	OTS	N/A
9	Morgenstern ^[15] , 1984	M	15.0	Multiple	< 0.8	N/A	N/A	/	N/A	N/A	N/A	OTS	N/A
10	Morgenstern ^[15] , 1984	F	11.0	Multiple	< 1.0	N/A	Congestive splenomegaly	Liver cirrhosis	N/A	N/A	N/A	OTS	N/A
11	Falk ^[16] , 1989	F	0.9	Single	6.5	N/A	Splenomegaly	/	N/A	N/A	N/A	OTS	N/A

12	Falk ^[16] , 1989	M	16.0	Single	7.0	N/A	N/A	Non-Hodgkin's spleen lymphoma	N/A	N/A	N/A	OTS ¹	N/A
13	Falk ^[16] , 1989	F	10.0	Single	2.5	N/A	N/A	/	N/A	N/A	N/A	OTS ¹	N/A
14	Falk ^[16] , 1989	M	6.0	Single	5.0	N/A	Splenomegaly	Hereditary spherocytosis	Anemia	N/A	N/A	OTS ¹	N/A
15	Falk ^[16] , 1989	F	9.0	Single	3.0	N/A	N/A	/	N/A	N/A	N/A	OTS ¹	N/A
16	Havlik ^[17] , 1990	M	3.0	Single	6.0	Lower pole	Abdominal pain; splenomegaly; fever; decreased appetite; lethargy; growth retardation	β thalassemia; recurrent infections	Anemia; thrombocytopenia	US: Solid mass; CT: Inhomogeneous mass with areas of lower density; scintigraphy: Area of faint radionuclide uptake	Splenic mass; hypersplenism	OPS	Resolution of symptoms
17	Okada ^[18] , 1990	M	17.0	Single	10.0	Midportion	Abdominal pain	/	Thrombocytopenia	US: Solid, hyperechoic mass; CT: Isodense mass; splenic angiography: Hypervascular mass; scintigraphy: Area of increased activity	Splenic mass	OTS	N/A
18	Villamartin ^[8,19] , 1994	M	8.0	Single	4.0	N/A	N/A	Urinary tract infection	N/A	N/A	Splenic mass	OPS ¹	N/A
19	Thompson ^[20] , 1996	F	14.0	Single	18.0	N/A	Abdominal pain; splenomegaly; malaise; weakness; growth retardation	/	Pancytopenia	US: Solid splenic mass of mixed echogenicity with calcifications; CT: Heterogeneous splenic mass of mixed attenuation; scintigraphy: Area of faint radionuclide uptake; MRI: Mass isointense in T1W, hyperintense, heterogeneous in T2W	Splenic mass; hypersplenism	TS ²	Resolution of symptoms and pancytopenia
20	Hayes ^[20] , 1998	F	11.0	Multiple	4.5	N/A	Progressive splenomegaly; low-grade fever; night sweats; growth retardation	/	Pancytopenia; bone marrow hyperplasia; elevated ESR	US and CT: Splenomegaly and no focal lesion; splenic arteriography: Irregular	Splenomegaly; hypersplenism	TS ²	Resolution of symptoms,

										distribution of contrast and splenomegaly; scintigraphy: Not remarkable			pancytopenia, and ESR
21	Yoshizawa ^[30] , 1999	M	0.4	Single	4.5	N/A	Splenomegaly; significant abdominal distension; shock	/	/	US: Peritoneal bleeding caused by rupture of the abdominal mass; MRI: Large mass in the left side of the upper abdomen	Spontaneous rupture	TS ²	Patient died on the 4 th d of hospitalization
22	Kassarjian ^[21] , 2001	M	14.0	Single	2.3	Lower pole	Weight loss; hypertension	Multiple cutaneous lobular capillary hemangiomas; membranoproliferative glomerulonephritis type I	Anemia; high creatinine level; proteinuria	US: Hypoechoic vascular mass; CT: No focal lesion; MRI: Hypointense on T1W, hyperintense on T2W; Dynamic MRI study: On T1W after gadolinium showed diffuse homogenous enhancement; scintigraphy: Absence of uptake	Splenic mass	OPS	Resolution of symptoms and anemia; normalization of creatinine and glomerular filtration rate; improved proteinuria
23	Yusuf ^[33] , 2003	M	5.0	Single	3.5	Lower pole	Abdominal pain; vomiting	/	/	US: Hypoechoic mass; CT: Solid lesion	Splenic mass	OTS	N/A
24	Abramowsky ^[8] , 2004	F	4.0	Multiple	2.5	N/A	Splenomegaly	Hereditary spherocytosis	Severe anemia	US: Splenomegaly with no focal lesions	Splenomegaly and severe anemia	TS ²	Improved anemia
25	Abramowsky ^[8] , 2004	M	11.0	Multiple	2.0	N/A	Splenomegaly	Congenital dyserythropoietic anemia; sickle cell traits; G6PD deficiency	Severe anemia	US: Splenomegaly with no focal lesions	Splenomegaly and severe anemia	TS ²	Improved anemia

26	Abramowsky [8], 2004	M	6.0	Multiple	3.0	N/A	Splenomegaly	Sickle cell disease with recurrent splenic sequestration crises	Severe anemia	US: Splenomegaly with no focal lesions	Splenomegaly; sequestration crises	TS ²	Improved anemia
27	Abramowsky [8], 2004	F	5.0	Single	7.0	N/A	Splenomegaly; palpable splenic mass	Coombs-negative hemolytic anemia; erythroid hyperplasia; without dyserythropoiesis	Anemia	US: Splenomegaly with no focal lesions; CT: Hypoattenuating mass; MRI: Hypointense on T1W and on T2W	Splenic mass	TS ²	Resolution of anemia
28	Ali ^[22] , 2005	F	2.0	Single	6.0	N/A	Abdominal pain	Recurrent urinary tract infection	N/A	US: Homogeneous hypovascular mass; CT: Solid mass	Splenic mass	OPS	Resolution of symptoms
29	Benkirane ^[23] , 2007	F	5.0	Single	1.8	N/A	Splenomegaly	Sickle cell disease with recurrent splenic sequestration crises	Anemia	N/A	Splenomegaly; sequestration crises	TS ²	N/A
30	Tatekawa ^[24] , 2007	F	12.0	Single	5.0	Midportion	Abdominal pain	/	N/A	CEUS (levovist) and color Doppler: Hypervascular, hyperechoic mass; CT: Splenic mass with heterogenous enhancement after contrast agent injection; MRI (SPIO enhanced): Hypointense in T2W	Splenic mass	LTS	N/A
31	Shah ^[32] , 2009	F	12.0	Single	6.0	Lower pole	Splenomegaly; fatigue; palpitations; exertional breathlessness	/	Pancytopenia; bone marrow hyperplasia	CECT: Minimal enhancing hypodense mass	Splenomegaly; hypersplenism; splenic mass	TS ²	Resolution of symptoms and pancytopenia
32	Avila ^[25] , 2009	F	7.0	Single	5.0	N/A	/	Microcytic anemia	Microcytic anemia	US: Hypoechoic, nodular, vascular mass; PET-CT:	Splenic mass	LTS	N/A

										Moderate uptake of radiolabeled FDG in a heterogeneous low-attenuating mass; needle biopsy and inconclusive HP finding			
33	Zhang ^[12] , 2014	M	8.0	Single	5.2	Midportion	Abdominal pain	/	/	US and color Doppler: Isoechoic, hypervascular mass; CECT: Hypodense mass with heterogenous enhancement after contrast agent injection; MRI: Mass hypointense in T1W, slightly hyperintense in T2W, moderate enhancement on gadolinium enhanced MRI	Splenic mass	TS ²	Resolution of symptoms
34	Zhang ^[12] , 2014	M	6.0	Single	9.4	Lower pole	Abdominal pain; splenomegaly	/	/	US and color Doppler: Hypoechoic, hypervascular mass; MRI: Mass hyperintense in T1W and T2W with non-homogenous signal within lesion	Splenic mass	TS ²	Resolution of symptoms
35	James ^[31] , 2014	F	18.0	Multiple	4.0	N/A	Splenomegaly; Intermittent diplopia; loss of consciousness ³	Alagille syndrome ³	Hyperbilirubinemia	CT and MRI vaguely discernable splenic masses	Postmortem finding	/	Postmortem finding
36	Giambelluca ^[26] , 2017	F	15.0	Single	10.0	N/A	Splenomegaly	Iron-deficiency anemia; β thalassemia major	Anemia	CT: Solid mass with calcifications	Severe anemia; splenomegaly; splenic mass	TS ²	N/A

37	Elenga ^[27] , 2017	M	8.0	Multiple	3.3	N/A	/	Sickle cell disease with recurrent splenic sequestration crises	Anemia	US: Splenomegaly and three hyperechoic masses	Splenic masses; sequestration crises	OTS	N/A
38	Serra ^[28] , 2018	M	7.0	Single	5.5	N/A	Acute lumbar pain; fever	/	Microhematuria	US: Solid, hypoechoic, hypervascular mass with microcalcifications; MRI: Mass hyperintense in T2W and isointense in T1W	Splenic mass	LPS	Resolution of symptoms
39	Boehnke ^[6] , 2020	N/A	N/A	Single	N/A	N/A	N/A	/	N/A	US: Hyperechoic mass; MRI: Mass hyperintense and homogeneous in T2W	Splenic mass	TS ²	N/A
40	Boehnke ^[6] , 2020	N/A	N/A	Single	N/A	N/A	N/A	/	N/A	US: Hypoechoic mass; MRI: Mass hypointense in T2W	Splenic mass	TS ²	N/A
41	Boehnke ^[6] , 2020	F	16.0	Single	N/A	N/A	N/A	Tuberous sclerosis; hepatic angiomyolipoma	N/A	US: Hyperechoic mass; MRI: Mass hyperintense in T2W	Splenic mass	TS ²	N/A
42	Sabra ^[11] , 2022	F	14.0	Single	6.0	Midportion	Abdominal pain; nausea	/	/	US: Hypoechoic mass; MRI: Mass intermediate intense signal in T2W	Splenic mass	OTS	N/A
43	Wang ^[40] , 2022	M	12.0	Single	7.5	Lower pole	N/A	Hemolytic anemia with non-obstructive jaundice	Anemia	CT: Hypodense mass with heterogenous enhancement after contrast agent injection	Splenic mass	OTS	N/A
44	Qingjiang ^[10] , 2022	N/A	N/A	Single	N/A	Lower pole	N/A	No associated hematological disorders	N/A	US and color Doppler: Hyperechoic mass with increased blood flow; CT: Well-circumscribed round mass with marked enhancement; MRI: Well-marginated mass with	Splenic mass	LPS	N/A

											slightly hyperintense in T1W			
45	Qingjiang ^[10] , 2022	N/A	N/A	N/A	N/A	N/A	N/A	No associated hematological disorders	N/A		N/A	Splenic mass	LTS	N/A
46	Qingjiang ^[10] , 2022	N/A	N/A	N/A	N/A	N/A	N/A	No associated hematological disorders	N/A		N/A	Splenic mass	LTS	N/A
47	Milickovic, 2024	M	9.0	Single	3.6	Lower pole	Abdominal pain	/	/		US: Hypoechoic mass	Splenic mass	OPS	Resolution of symptoms

¹Cases in whom the splenectomy was performed before the first published case of laparoscopic splenectomy indicating that the open approach was applied; ²Cases that were published after the first reported laparoscopic splenectomy. However, there were not enough data to conclude whether an open total splenectomy or laparoscopic total splenectomy was performed; ³All other signs and symptoms were related to Alagile syndrome. CECT: Contrast-enhanced computed tomography; CEUS: Contrast-enhance ultrasound; CT: Computed tomography; ESR: Erythrocyte sedimentation rate; F: Female; FDG: 18F-fluoro-deoxy-D-glucose; G6PD: Glucose-6 phosphate dehydrogenase; HP: Histopathological; LPS: Laparoscopic partial splenectomy; LTS: Laparoscopic total splenectomy; M: Male; MRI: Magnetic resonance imaging; N/A: Not available; OPS: Open partial splenectomy; OTS: Open total splenectomy; PET-CT: Positron emission tomography-computed tomography; RH: Rhesus factor; SPIO: Superparamagnetic iron oxide; T1W: T1-weighted; T2W: T2-weighted; TS: Total splenectomy; US: Ultrasound.