

Supplementary Table 1 Preoperative conditions of the patient.

Preoperative conditions	value
Age (year)	14
Sex	male
Temperature (°C)	36.3
Pulse (bpm)	100
Respiration Rate	20
Blood pressure (mmHg)	100/71
Infectious disease	No
Blood transfusion history	No
Previous illnesses	
Growth delay	
Moderate protein-energy malnutrition	
Operation history	No
Admission history	No
Family medical history	No
Height and weight	
Height (cm)	148.0
Weight (kg)	35.0
BMI (kg/m²)	15.98
Blood cell test	
White blood cells (range 4.10-11.00× 10 ⁹ /L)	2.27× 10 ⁹ /L
Neutrophils (range 1.80-8.30× 10 ⁹ /L)	0.88× 10 ⁹ /L
Lymphocytes (range 1.20-3.80× 10 ⁹ /L)	1.18× 10 ⁹ /L
Monocytes (range 0.14-0.74× 10 ⁹ /L)	0.17× 10 ⁹ /L
Eosinophils (range 0.00-0.68× 10 ⁹ /L)	0.03× 10 ⁹ /L
Basophils (range 0.00-0.07× 10 ⁹ /L)	0.01× 10 ⁹ /L
Red blood cells (range 4.50-5.90× 10 ¹² /L)	3.93× 10 ¹² /L
Platelets (range 150-407× 10 ⁹ /L)	40× 10 ⁹ /L

Hemoglobin (range 129-172 g/L)	109 g/L
Tumor markers test	
Carcinoembryonic antigen (range 0.00-3.40 ng/mL)	<0.30 ng/mL
Carbohydrate antigen 125 (range 0.00-35.00 u/mL)	9.26 u/mL
Carbohydrate antigen 199 (range 0.00-27.00 u/mL)	2.88 u/mL
Alpha-fetoprotein (range 0.00-7.00 ng/mL)	1.55 ng/mL
Spleen size	
Computed tomography (length×width)	21.9 cm×9.1 cm
Abdominal ultrasonographic (length×width)	19.1 cm×8.5 cm
Spleen Index	83 cm ²
Tumor size	
Computed tomography (length×width)	9.3 cm×7.8 cm
Abdominal ultrasonographic (length×width)	7.4 cm×6.8 cm

Supplementary Table 2 Intraoperative conditions of the patient.

Intraoperative conditions	value
The operation time (min)	240
The intraoperative transfusion (ml)	
Autologous blood transfusion	300
The intraoperative blood loss (ml)	50
The number of lymph nodes dissected	
Splenic lymph nodes	8
Intraoperative complications	No

Supplementary Table 3 Clinical data of children with LCA.

Cases	Age (yr)	Sex	Clinical presentation	Anemia	Decreased PLT	Pancytopenia	Imaging results	Tumor types	Biomarkers	Treatment and prognosis
1 ^[1]	1	Female	Splenomegaly, fever	Yes	Yes	No	MRI: high density	Multiple	Factor VIII, CD31, CD34, CD68 ⁺⁺⁺ +	Splenectomy, No recurrence
2 ^[2]	2	Male	Splenomegaly	Yes	Yes	No	CT: low-density shadows, MRI: mild progressive contrast enhancement, Ultrasound: low-density shadows	Multiple	Unknown	Splenectomy
3 ^[3]	11	Female	Abdominal symptoms	No	No	No	MRI: T1 hypointense signal, T2 hyperintense signal	Solitary	CD31, CD68, CD34 ⁺⁺ , CD8 ⁻ , Ki67 (2%)	Splenectomy
4 ^[4]	12	Male	Splenomegaly	Unknown	Unknown	Unknown	Ultrasound: low-density	Multiple	Unknown	Splenectomy
5 ^[5]	15	Male	Abdominal symptoms	No	No	No	Enhanced CT: high density in early arterial phase, low density in portal venous phase	Solitary	Unknown	Splenectomy
6 ^[6]	26 days	Male	Vomiting, Abdominal symptoms	No	Yes	No	CT: low echo MRI: T1 and T2 hypointense signal	Multiple	ERG, CD68 and CD21, CD8 ⁺⁺⁺ , CD34 ⁻ ,	Conservative, No recurrence
7 ^[7]	2	Male	Purpura, Splenomegaly	Yes	No	No	Unknown	Unknown	Unknown	Splenectomy, No recurrence

8 ^[8]	11	Male	Splenomegaly, Abdominal symptoms, Anemia	Yes	Yes	No	Ultrasound: low echoes	Multiple	CD68, CD31, CD34 ⁺⁺⁺	Splenectomy
9 ^[9]	9	Famel	Abdominal symptoms	Unknown	Unknown	Unknown	CT: mixed density of the spleen, central patchy high-density Ultrasound: heterogeneous echoes	Solitary	CD31, CD34 ⁺⁺ , ERG, EMA, Vim ⁺⁺ , Ki-67 ⁺	Splenectomy
10 ^[10]	3	Famel	Asymptomatic	Yes	No	No	CT: low-density Ultrasound: slightly stronger echoic	Multiple	Vimentin/CD31, ERG, CD34, CD68, CD163, CD21 ⁺⁺⁺ , Ki67 ⁺	Splenectomy, No recurrence
11 ^[11]	9	Male	Abdominal symptoms, Splenomegaly	Unknown	Unknown	Unknown	MRI: T1 and T2 slightly prolonged/equal	Solitary	CD31, CD34 ⁺⁺ , Ki-67, Vimentin, CD68 ⁺⁺⁺	Unknown
12 ^[12]	7	Famel	Asymptomatic	No	No	No	MRI: slightly long T1, isointense T2	Solitary	CD31, CD34, Ki67 ⁺⁺⁺	Splenectomy, No recurrence
Our case	14	Male	Abdominal symptoms	Yes	Yes	Yes	CT: low-density, Enhanced CT: mixed density of the spleen, central patchy slightly high-density Ultrasound: heterogeneous echoes	Multiple	CD31, CD34, CD68 ⁺⁺⁺ , Ki67(1%), CD8 ⁻	Splenectomy, No recurrence

Note: CT: computed Tomography; MRI: magnetic resonance imaging;

- [1]Antón-Pacheo J, Ayuso RF, Cano I, et al. Splenic littoral cell angioma in an infant. *Journal of pediatric surgery*, 2000, 35(3): 508-509
- [2]Ertan G, Tekes A, Mitchell S, et al. Pediatric littoral cell angioma of the spleen: multimodality imaging including diffusion-weighted imaging. *Pediatric radiology*, 2009, 39: 1105-1109
- [3]Bedir R, Şehitoğlu İ, Calapoğlu AS, et al. A rare case of splenic littoral cell angioma in a child. *Journal of Laboratory Physicians*, 2014, 6(02): 117-120
- [4]Forest F, Duband S, Clemenson A, et al. Traumatic subcapsular splenic hematoma revealing littoral cell angioma and Gaucher's disease. *Annals of hematology*, 2010, 89: 1061-1062
- [5]Li Y, Wang X, Cai Y, et al. Laparoscopic central splenectomy for littoral cell angioma. *Journal of Gastrointestinal Surgery*, 2021, 25: 576-577
- [6]Gakenheimer-Smith L, Mohlman J, VandenHeuvel K, et al. A novel presentation of littoral cell angioma and lymphatic malformations in a neonate. *Pediatrics*, 2018, 141(Supplement_5): S520-S525
- [7]Jasani M, Shah A and Shah A. Littoral cell angioma: A rare cause of pediatric thrombocytopenia. *Journal of Indian Association of Pediatric Surgeons*, 2018, 23(3): 156-157
- [8]Anbardar MH, Kumar PV and Forootan HR. Littoral cell angioma of the spleen: Cytological findings and review of the literature. *Journal of Cytology*, 2017, 34(2): 121-124
- [9]Wang C, Tian Y, Cai W, et al. Littoral Cell Angioma of Spleen Complicated With Hemorrhage—2019 Film Reading Window (9). *Anhui Yixue*, 2019, 40(9): 1076-1077
- [10]Mou Y, Yang L, Wang J, et al. Case report and literature review: Asymptomatic littoral cell angioma in a 3-year-old girl. *Frontiers in Pediatrics*, 2024, 12: 1383015
- [11]Lai B, Zhong Q, Peng J. Case 149 answer of diagnose please: rare single littoral cell angioma of spleen in children. *Radiol Pract.* (2021) 36(3):419–420
- [12]Wu R. Littoral Cell Angioma of the Spleen: Report of 10 Cases and Literature Review. Jinan: Shandong University; (2020).

Supplementary Table 4 Postoperative recovery of the patient.

Postoperative recovery	value
Postoperative early complications	
Fever	
Postoperative late complications	
	No
Time to soft diet (d)	1
Hospital day after surgery (d)	8
Pain score at postoperative day	2
Blood cell test (after 1 month)	
White blood cells (range 4.10-11.00× 10 ⁹ /L)	7.14× 10 ⁹ /L
Neutrophils (range 1.80-8.30× 10 ⁹ /L)	3.44× 10 ⁹ /L
Lymphocytes (range 1.20-3.80× 10 ⁹ /L)	1.36× 10 ⁹ /L
Monocytes (range 0.14-0.74× 10 ⁹ /L)	0.98× 10 ⁹ /L
Eosinophils (range 0.00-0.68× 10 ⁹ /L)	1.19× 10 ⁹ /L
Basophils (range 0.00-0.07× 10 ⁹ /L)	0.17× 10 ⁹ /L
Red blood cells (range 4.50-5.90× 10 ¹² /L)	5.13× 10 ¹² /L
Platelets (range 150-407× 10 ⁹ /L)	545× 10 ⁹ /L
Hemoglobin (range 129-172 g/L)	138 g/L
Blood cell test (after 3 months)	
White blood cells (range 4.10-11.00× 10 ⁹ /L)	11.1× 10 ⁹ /L
Neutrophils (range 1.80-8.30× 10 ⁹ /L)	4.39× 10 ⁹ /L
Lymphocytes (range 1.20-3.80× 10 ⁹ /L)	5.14× 10 ⁹ /L
Monocytes (range 0.14-0.74× 10 ⁹ /L)	0.84× 10 ⁹ /L
Eosinophils (range 0.00-0.68× 10 ⁹ /L)	0.66× 10 ⁹ /L
Basophils (range 0.00-0.07× 10 ⁹ /L)	0.08× 10 ⁹ /L
Red blood cells (range 4.50-5.90× 10 ¹² /L)	5.20× 10 ¹² /L
Platelets (range 150-407× 10 ⁹ /L)	185× 10 ⁹ /L
Hemoglobin (range 129-172 g/L)	139 g/L
Weight (kg)	
After 1 month	34.3
After 3 months	38.2
After 8 months	41.6
Height (cm)	
After 1 month	148.0
After 3 months	149.2

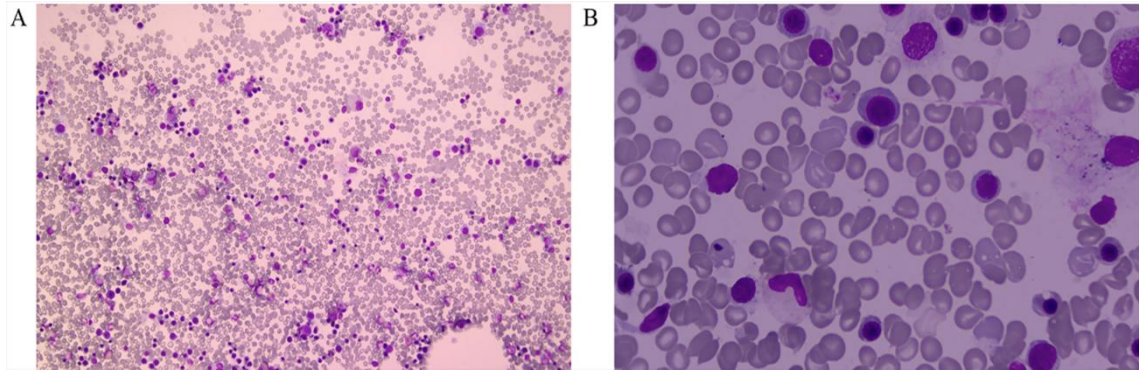
After 8 months	151.4
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BMI (kg/m²)

After 1 month	15.66
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After 3 months	17.16
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After 8 months	18.15
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Supplementary Figure 1 Blood system check (A) The blood smear from the peripheral blood showed that blood cell morphology was normal. (HE $\times 100$). (B) The blood smear from the bone marrow aspiration showed that megakaryocytic series and erythrocytic series increased but granulocytic series decreased. (HE $\times 100$).



Supplementary Figure 2 Postoperative CT (A,B,C) shown that no abnormal lesions were found in the surgical area.