

Table S1. Listing of baseline characteristics

Patient	Sex	Age (yr)	Age at Diagnosis	Clinical manifestations of disease			Plasminogen	
				Lesion (symptom) history	Lesion Duration	Prior treatments of disease	Activity* (%)	Antigen† (mg/dL)
1	F	39	1 yr	Conjunctiva Ear (pain, itching) Cervix (pain)	6 mo‡ 38 yr 22 yr‡	Surgery: ear	29	3.8
2	M	35	10 mo	Conjunctiva (discharge, pain)	15 yr‡	Eye drop: heparin, cyclosporine, plasminogen Surgery: conjunctival (9)	43	5.4
3	F	16	3 yr	Conjunctiva (discharge, tearing, redness) Ear (pain)	4 yr 12 yr	Eye drop: heparin, cyclosporine Infusion: FFP	28	5.6

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4	F	24	2 yr	Conjunctiva (discharge, tearing, redness)	8 yr	Eye drop: heparin, chloramphenicol	28	13.4
				Nasopharynx	10 yr	Surgery: cervical (1)		
				Gingiva	19 yr‡	Infusion: FFP		
				Tonsils (pain, swelling)	17 yr			
				Vocal cords	11 yr			
				Lungs (pain in chest)	1 mo‡			
				Cervix	6 yr			
				Ovaries	6 yr			
Urethra	6 yr							
5	M	20	10 yr	Conjunctiva (discharge)	1 yr	Eye drop: heparin	22	2.1

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6	F	37	14 yr	Conjunctiva (discharge) Gingiva Nasopharynx Lungs (chronic cough, wheezing, respiratory distress, airway obstruction) Kidneys Cervix Uterus	35 yr‡ 8 yr‡ 1 mo‡ 29 yr‡ 8 yr‡ 1 yr§ 1 yr§	Eye drops: heparin, cyclosporine, corticosteroid, naphazoline, plasminogen Surgery: conjunctival (at least 18), nasal, tracheal, cervical, uterine Other: laryngoscopy/bronchoscopy (at least 43)	<5	<0.5
7	F	24	10.5 yr	None (cervical bleeding and pain)	NA	None	31	5.2
8	F	5	5 yr	Conjunctiva (discharge, tearing) Vagina (bleeding)	1 yr‡ 1 mo‡	Eye drop: moxifloxacin, heparin, cyclosporine, fluorometholone Surgery: conjunctival (3)	22	3.4

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9	F	16	8 yr	Conjunctiva (ligneous conjunctivitis, tear duct infection) Vagina (ligneous vaginitis) Colon (constipation, blood stools, rectal mucous discharge, tenesmus)	3 yr 2.5 yr‡ 6 mo‡	Surgery: pseudomembrane (4) Eye drop: moxifloxacin, prednisolone, loteprednol, cyclosporine, olopatadine, FFP Infusion: FFP	20	4.8
10	F	11	5 yr	Conjunctiva (discharge, tearing, redness)	11 yr‡	Surgery: pseudomembrane (4) Eye drop: heparin, prednisolone, cyclosporine, FFP Infusion: FFP	17	3.5
11	M	6	5 yr	Conjunctiva (discharge) Vocal cords (hoarse voice)	1 mo 1 yr§	Surgery: pseudomembrane (2) Eye drop: heparin, cyclosporine	29	5.5
12	M	33	Birth	Conjunctiva (ligneous conjunctivitis) Nose (nasal congestion) Delayed wound healing Palmar/plantar warts Lungs (airway obstruction)	UNK‡ 3 yr§ UNK‡ UNK‡ UNK§	Surgery: conjunctival (1) Infusion: FFP	<5	<0.5

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13	F	33	UNK	Conjunctiva (ligneous conjunctivitis)	33 yr‡	Surgery: conjunctival (1)	15	4.0
				Delayed wound healing (scars)	33 yr‡	Eye drop: plasminogen		
				Uterus	23 yr§	Infusion: FFP		
14	F	42	39 yr	Conjunctiva (ligneous conjunctivitis)	42 yr‡	None	<5	<0.5
				Gingiva	42 yr‡			
				Tumors, wrists	UNK‡			
				Palmar/plantar warts	UNK‡			
				Lung (airway obstruction)	UNK§			
				Abdomen (pain)	15 yr§			

F indicates female; FFP, fresh frozen plasma; M, male; NA, not applicable; and UNK unknown.

*Plasminogen activity normal range is 70-130%.

†Plasminogen antigen normal range is 6-20 mg/dL.

‡Lesion ongoing and assessed in the study.

§Lesion ongoing but not assessed in the study.

||Skin lesions represent manifestations of abnormal wound healing due to congenital plasminogen deficiency.

Table S2. Listing of genetic profiles

Patient	Sex	Plasminogen			Genetic profile
		Age (yr)	Activity* (%)	Antigen† (mg/dL)	
1‡	F	39	29	3.8	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with 3 additional common heterozygous variants detected (c.330C>T, p.Asn110Asn; c.1083A>G, p.Gln361Gln; and c.1414G>A, p.Asp472Asn)
2‡	M	35	43	5.4	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2, with 3 additional common heterozygous variants detected (c.330C>T, p.Asn110Asn; c.1083A>G, p.Gln361Gln; and c.1414G>A, p.Asp472Asn)
3	F	16	28	5.6	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i>
4	F	24	28	13.4	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> and a heterozygous missense mutation (c.2278A>G, p.Ser760Gly) in exon 19 of <i>PLG</i>
5	M	20	22	2.1	Homozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with 2 homozygous silent variants (c.330C>T and C.1083A>G) and 1 homozygous missense variant (c.1414G>A, p.Asp472Asn)

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Patient	Sex	Plasminogen			Genetic profile
		Age (yr)	Activity* (%)	Antigen† (mg/dL)	
6	F	37	<5	<0.5	Heterozygous, single amino acid deletion (c.687_689delGAA, p.Lys230del) in exon 7 of <i>PLG</i> , heterozygous frameshift deletion (c.2125_2125delG, p.Gly709fs) in exon 17 of <i>PLG</i> , with 5 heterozygous silent variants (c.330C>T, c.771T>C, c.942C>T, c.1083A>G, and c.2286T>G) and 1 common heterozygous missense variant (c.1414G>A, p.Asp472Asn)
7	F	24	31	5.2	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with a heterozygous frameshift deletion (c.2335_2336delC, p.Trp780fs) of unknown significance in exon 19 of <i>PLG</i> and 4 heterozygous silent variants (c.330C>T, c.771T>C, c.942C>T and c.1083A>G) and 1 heterozygous missense variant (c.1414G>A, p.Asp472Asn)
8	F	5	22	3.4	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with a heterozygous splice site mutation (Chr6:161152265, G>A) 1bp downstream from the end of exon 11 of <i>PLG</i> and 5 heterozygous silent variants (c.330C>T, c.771T>C, c.942C>T, C.1083A>G, and c.2286T>G) and 1 heterozygous missense variant (c.1414G>A, p.Asp472Asn)

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Patient	Sex	Plasminogen			Genetic profile
		Age (yr)	Activity* (%)	Antigen† (mg/dL)	
9	F	16	20	4.8	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with heterozygous missense variant (c.704G>A, p.Arg235His) in exon 7 of <i>PLG</i> , with 5 heterozygous silent variants (c.330C>T, c.771T>C, c.942C>T, c.1083A>G, and c.2286T>G) and 1 heterozygous missense variant (c.1414G>A, p.Asp472Asn)
10	F	11	17	3.5	Heterozygous pathogenic variants (c.112A>G, p.IK38E in exon 2 and c.185+1G>T in intron 2) of <i>PLG</i> and a heterozygous variant (c.1468G>A, p.G490R) in exon 10 of <i>CACNA1C</i>
11	M	6	29	5.5	Homozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> , with 2 homozygous silent variants (c.330C>T and c.1083A>G) and 1 homozygous missense variant (c.1414G>A, p.Asp472Asn)
12§	M	33	<5	<0.5	Homozygous missense variant (c.2T>C, p.Met1Thr) in the start codon of <i>PLG</i> , with 2 homozygous silent variants (c.330C>T and c.1083A>G) and 1 homozygous missense variant (c.1414G>A, p.Asp472Asn)
13	F	33	15	4.0	Heterozygous missense variant (c.112A>G, p.Lys38Glu) in exon 2 of <i>PLG</i> and a heterozygous deletion (c.493_516del_TATACTACTGATCCAGAAAAGAGA, p.Tyr165_Arg172del) of unknown significance in exon 5 of <i>PLG</i> ., with 4 heterozygous silent variants (c.330C>T, c.1083A>G, c.2082T>C and c.2286T>G) and 1 heterozygous missense variant (c.1414G>A, p.Asp472Asn)

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		Age (yr)	Activity* (%)	Antigen† (mg/dL)	
14§	F	42	<5	<0.5	Homozygous missense variant (c.2T>C, p.Met1Thr) in the start codon of <i>PLG</i> , with 2 common homozygous silent variants (c.330C>T and c.1083A>G) and 1 homozygous missense variant (c.1414G>A, p.Asp472Asn)

DNA was extracted from whole blood samples prior to targeted multiplex polymerase chain reaction to selectively amplify the exonic regions of the plasminogen gene, including flanking regions with splice sites. Next, generation sequencing was performed on the amplified fragments, and the sequence was compared to the reference Human genome 19 sequence. The minimum read depth was set to 40 reads per base pair for acceptable sequencing. All mutations, disease-associated polymorphisms, benign polymorphisms, and other known variants of undetermined significance were noted and described. Plasminogen genetic testing was performed centrally by Machaon Diagnostics, Oakland, California.

F indicates female and M, male.

* Plasminogen activity normal range is 70-130%.

† Plasminogen antigen normal range is 6-20 mg/dL.

‡ Patient 1 and Patient 2 are siblings.

§ Patient 12 and Patient 14 are siblings.