

Table S1: Assessment of safety, tolerability and efficacy of the trial

Assessment of safety and tolerability *

Tolerability was based on clinical examination at Day+1, Day+7, Day+21, and was assessed by the following items:

Skin hands colouring at room temperature

Body temperature

Healing of tissue harvest and SVF injection sites

Visual analog scale (VAS 0-100) for hands and abdomen pain quantification

Raynaud's Condition Score (RCS) evaluating how much the condition affected use of the hands during the preceding week

scale 0=no pain or no functional impact, to 10=maximum pain or functional impact

DU(s) outcome (size, aspect, number...)

Assessment of efficacy *

Efficacy endpoints were assessed by a single evaluator at baseline, 2 and 6 months following SVF injection

1) Hand function:

Cochin Hand Function Scale(CHFS) questionnaire [24]

The questionnaire was completed in the light of the patient's answers to 18 questions concerning daily living activities, each question being scored from 0=performed without difficulty, to 5=impossible to do. Disability was recorded as the total score (range 0–90)

Kapandji Score assessing opposition of the thumb

scale 0=impossible, to 10 =complete [26]

Grip and pinch strength using a Jamar dynamometer under standard conditions [27]

Lateral range of motion of the fingers by measuring the distance between the thumb and index finger (1st corner) and the sum of the distances between the four fingers (2nd, 3rd, and 4th corners) upon maximum stretch

Fingers' flexion by measuring the finger pad to distal palmar line (mm)

2) Vasculopathy:

Raynaud's Condition Score (RCS)

Hands pain (VAS 0-100)

DU(s) outcome

Nailfold Capillary microscopy [28] *by a single, experienced evaluator using a stereomicroscope (SMZ-10 NIKON) at a stable temperature between 20-22°C*

3) Skin fibrosis:

Global Modified Rodnan Skin Score (MRSS) (scale 0-51) [29]

MRSS for the hands evaluated skin thickening on the dorsal hand and the first and second phalanges of the most affected finger

scale 0=no skin fibrosis, to 18= maximum fibrosis

Fingers edema assessed by circumference of fingers measured with a jeweler's rings

4) Overall disability: the Scleroderma Health Assessment Questionnaire (SHAQ) [30]

score ranged from 0=no disability, to 3 =severe disability

* Duration of the follow-up was chosen at 6 months because evaluation of safety requires observation of patients for a substantial period to capture the safety profile and preliminary efficacy endpoints

<http://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm279107>.

Table S2: Radiological findings in the 12 patients with systemic sclerosis

Radiological findings	SSc patients
Number of patient with:	(n = 12)
Joint pattern	7
Erosion	3*
Wrists	2/3
MCP	0/3
PIP	0/3*
DIP	2/3*

Joint space narrowing	6*
Wrists	4/6
MCP	0/6
PIP	2/6*
DIP	3/6*
Arthritis (erosion+joint space narrowing)	1/6*
Bone pattern	3
Radiological demineralisation	0/3
Bone resorption	3/3
Acro-osteolysis	3/3
Resorption of distal ulna	0/3
Osteitis	0/3
Soft tissue pattern	7
Calcinosis	6/7
Flexion contracture	5/7

*not evaluable for 2 patients due to severe and irreducible digital flexion

Table S3: Effect of autologous adipose-derived SVF injection on digital ulcers outcome

	Number of DUs at baseline	Number of DUs at 2 months	Number of DUs at 6 months
Patient 1			
Dominant hand	0	0	0
Non dominant hand	1 (2mm diameter)	1 (1mm diameter)	0
Patient 3			
Dominant hand	4 (2mm diameter for 2, 3mm diameter for 2)	0	1 (3mm diameter)
Non dominant hand	1 (3mm diameter)	0	0
Patient 4			
Dominant hand	5 (4mm diameter for 2 and 1mm diameter for the 3 other)	7 (4mm diameter for 2 and 1mm diameter for the 5 other)	3 (1mm diameter for 2 and 2mm diameter for the third)
Non dominant hand	0	0	0
Patient 7			
Dominant hand	1 (necrotic ulcer 9mm x 7mm)	0	1 (healed ulcer 2mm diameter)
Non dominant hand	1 (scab in ulcer 8mm x 4mm)	0	1 (healed ulcer 1mm diameter)
Patient 10			
Dominant hand	1 (2mm diameter)	1 (scab in ulcer 1mm diameter)	0
Non dominant hand	1 (4mm diameter)	1 (2mm diameter)	1 (2mm diameter)