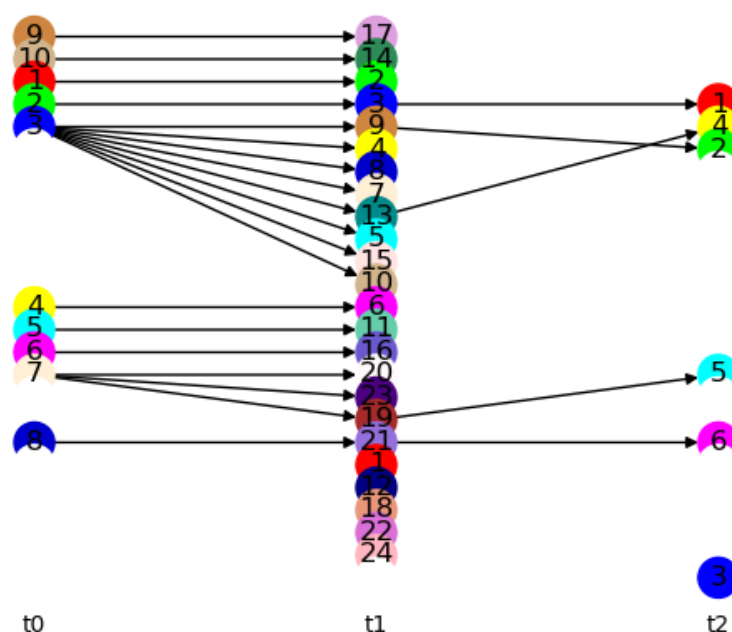# B. T. Patient Summary
Patient Study Based on Lesion Graph

t0   t1   t2

Di Veroli B., Joskowicz L. A Graph Theoretic Approach for Analysis of Lesion Changes and Lesions Detection Review in Longitudinal Ontological Imaging, CASMIP Hebrew University, 2023

Lesion Counting According to Their Classification

Time Layer	complex	disappeared	lone	merged	new	persistent	split
0	0	0	0	0	8	0	2
1	0	0	5	0	0	19	0
2	0	19	1	0	0	5	0

Tracking the Changes in the Total Volume of the Tumors From One Scan to the Previous One

| Time Stamp	Total Volume [cm³]	Volume Difference Percentage	Volume Difference [cm³]
0	51.14	-	-
1	67.0	+31%	+15.86
2	1.09	-98%	-65.9

Individual Lesion Changes

New Lesions

Lesion 3 appeared for the first time in the last scan.

Lesions that have disappeared over time

Over time, 11 lesions disappeared.
They were last identified in 18.02.19.

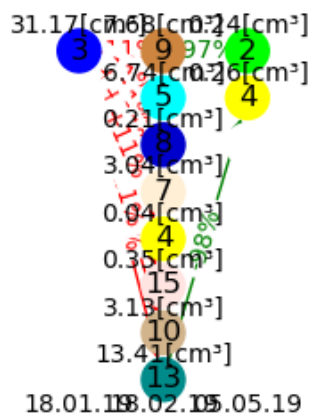## Lesions appearing throughout several scans

• The History of Lesion 1

3.43[cm³]	+58%	5.43[cm³]	-97%	0.17[cm³]
2		3		1
18.01.19		18.02.19		05.05.19
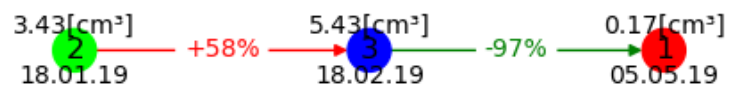
Lesion volume has decreased by 327% from previous scan to current scan. Volume consistently decreased over time by 60% from first scan to last scan.

Classification of connected component: linear_p

• The History of Lesions 2, 4

31.17[cm³] 7.68[cm³] 0.24[cm³]
3 9 2
6.74[cm³] 0.26[cm³]
5 4
0.21[cm³]
8
3.04[cm³]
7
0.04[cm³]
4
0.35[cm³]
15
3.13[cm³]
10
13.41[cm³]
13
18.01.19 18.02.19 05.05.19

Lesion volume has decreased by 63% from previous scan to current scan. Volume consistently decreased over time by 93% from first scan to last scan.
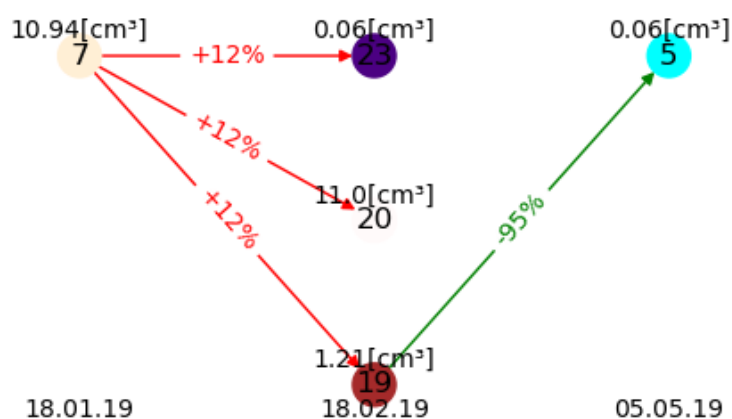
Classification of connected component: split_p

• The History of Lesion 5

10.94[cm³]   0.06[cm³]   0.06[cm³]
7   —— +12% ——→ 23   5
              +12%
                        11.0[cm³]
                        20
                                    -95%
                        1.21[cm³]
                        19
18.01.19   18.02.19   05.05.19

Lesion volume has decreased by 99% from previous scan to current scan. Volume consistently increased over time by 90% from first scan to last scan.
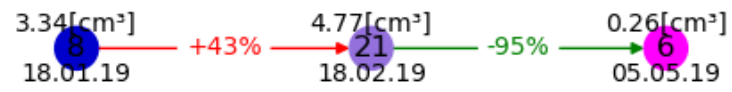
Classification of connected component: split_p

• The History of Lesion 6

3.34[cm³]   4.77[cm³]   0.26[cm³]
8 —— +43% ——▶ 21 —— -95% ——▶ 6
18.01.19   18.02.19   05.05.19

Lesion volume has decreased by 81% from previous scan to current scan. Volume consistently increased over time by 498% from first scan to last scan.

Classification of connected component: linear_p