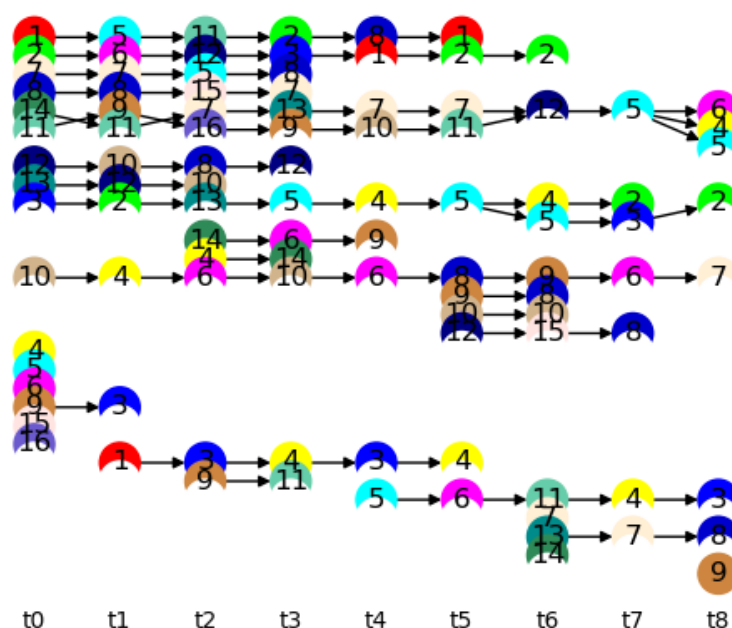


## C. A. Patient Summary

### Patient Study Based on Lesion Graph



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

**Lesion Count According to Classification**

Time Layer	complex	disappeared	lone	merged	new	persistent	split
0	0	0	0	0	16	0	0
1	0	5	0	0	1	11	0
2	0	1	0	0	3	11	0
3	0	1	0	0	0	13	0
4	0	5	0	0	1	8	0
5	0	1	0	0	3	7	1
6	0	2	2	1	1	8	0
7	0	5	0	0	0	6	1
8	0	2	1	0	0	7	0

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

Time Stamp	Total Volume [cm <sup>3</sup> ]	Volume Difference Percentage	Volume Difference [cm <sup>3</sup> ]
0	16.9	-	-
1	1.46	-91%	-15.44
2	1.64	+12%	+0.17
3	3.34	+104%	+1.7
4	12.96	+288%	+9.62
5	15.79	+22%	+2.83
6	13.21	-16%	-2.58
7	12.1	-8%	-1.11
8	8.61	-29%	-3.49

# Individual Lesion Changes

## New Lesions

Lesion 9 appeared for the first time in the last scan.

## Disappeared Lesions

Over time, 22 lesions disappeared.

5 lesions were last identified in 05.11.17.

1 lesion was last identified in 10.01.18.

1 lesion was last identified in 22.04.18.

5 lesions were last identified in 13.12.18.

1 lesion was last identified in 31.03.19.

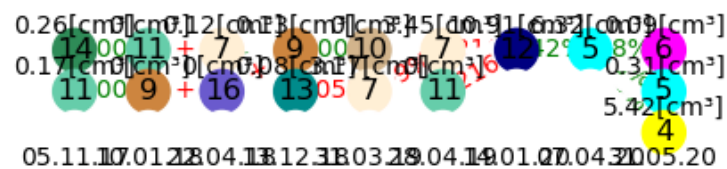
2 lesions were last identified in 28.04.19.

5 lesions were last identified in 14.01.20.

2 lesions were last identified in 07.04.20.

## Lesions Appearing in Multiple Scans

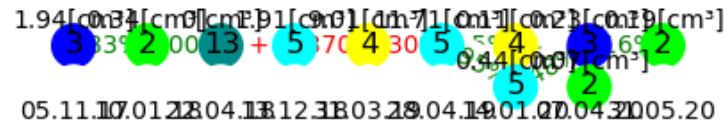
- The History of Lesions 6, 5, 4



Lesion volume has decreased by 10% from previous scan to current scan. Volume consistently decreased over time by 89% from first scan to last scan.

Classification of connected component: complex.

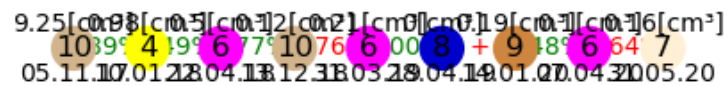
- The History of Lesion 2



Lesion volume has decreased by 184% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: split.

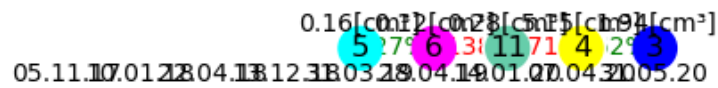
#### • The History of Lesion 7



Lesion volume has decreased by 64% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: linear.

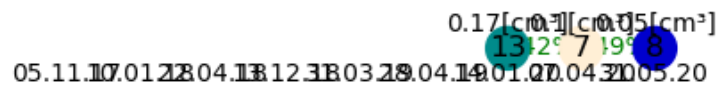
#### • The History of Lesion 3



Lesion volume has decreased by 752% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: linear.

#### • The History of Lesion 8



Lesion volume has decreased by 54% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: linear.