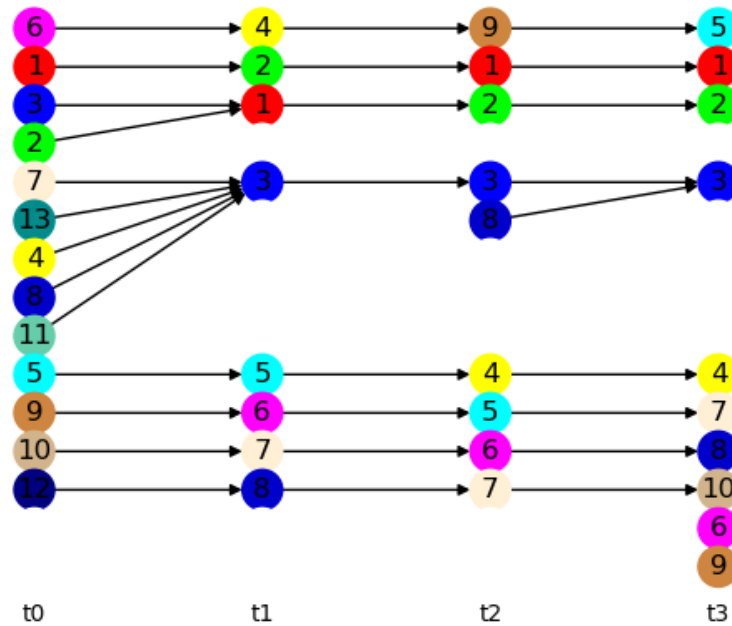


## A. S. H. Patient Summary

### Patient Study Based on Lesion Graph



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

#### Lesion Counting According to Their Classification

Time Layer	complex	disappeared	lone	merged	new	persistent	split
0	0	0	0	0	13	0	0
1	0	0	0	2	0	6	0
2	0	0	0	0	1	8	0
3	0	0	2	1	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	647.47	-	-
1	712.19	+10%	+64.73

2	690.31	-3%	-21.88
3	785.18	+14%	+94.87

# Individual Lesion Changes

## New Lesions

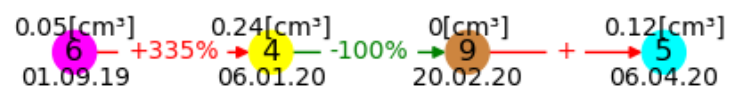
Lesions 6, 9 appeared for the first time in the last scan.

## Lesions that have disappeared over time

Over time, no lesions disappeared.

## Lesions appearing throughout several scans

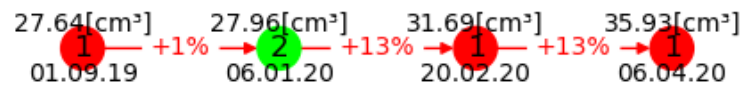
### • The History of Lesion 5



Lesion volume has decreased by 94% 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\_p

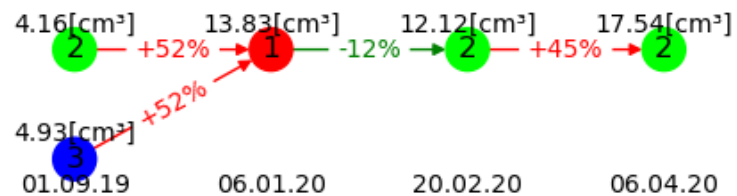
### • The History of Lesion 1



Lesion volume has decreased by 13% 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\_p

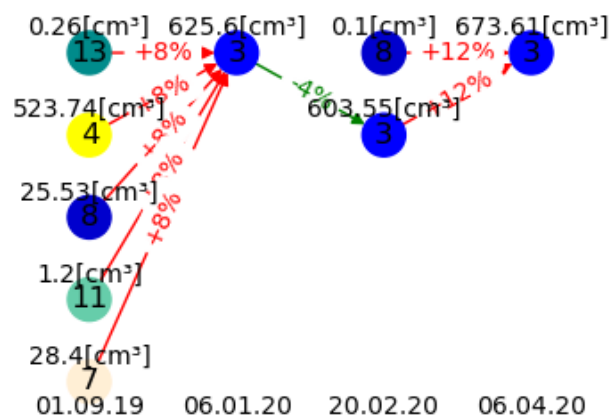
#### • The History of Lesion 2



Lesion volume has decreased by 45% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: merge\_p

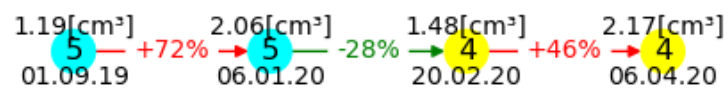
#### • The History of Lesion 3



Lesion volume has decreased by 12% from previous scan to current scan. Volume shows both increases and decreases over time from first scan to last scan.

Classification of connected component: merge\_p

#### • The History of Lesion 4



Lesion volume has decreased by 46% 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\_p

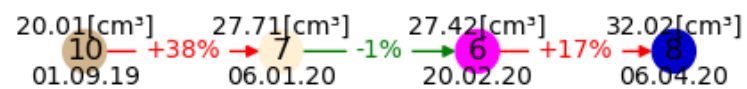
#### • The History of Lesion 7



Lesion volume has decreased by 78% from previous scan to current scan. Volume consistently decreased over time by 91% from first scan to last scan.

Classification of connected component: linear\_p

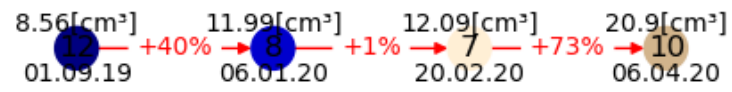
#### • The History of Lesion 8



Lesion volume has decreased by 32662% from previous scan to current scan. Volume consistently decreased over time by 25% from first scan to last scan.

Classification of connected component: linear\_p

#### • The History of Lesion 10



Lesion volume has decreased by 4% from previous scan to current scan. Volume consistently increased over time by 4% from first scan to last scan.

Classification of connected component: linear\_p