

NEW SERUM BLOOD TEST FOR MONITORING COLORECTAL CANCER: TUMOR MARKER CA 11-19

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BACKGROUND

- Colorectal cancer is the third most frequent cause of cancer deaths globally.
- The imperfect gold standard for monitoring and surveillance after CRC diagnosis, is CEA which often fails due to low detection of early stage cancer and polyps.¹
- New published data describes the performance of a novel colorectal tumor marker, CA11-19, measured in serum: sensitivity of 98% (95% CI, 93.1%-99.5%) and specificity of 84% (95% CI, 80.0%-87.9%) with a high sensitivity for detection of early stage CRC (95%) and polyps (40%)².

PURPOSE

- The goal of the study was to analyze case study data that show an array of long-term monitoring outcomes which could suggest the value of adding CA 11-19 to monitoring patients at increased risk of recurrence of colorectal cancer.

MATERIALS AND METHODS

- Frozen serum samples collected over a long-term (2-30 years) of seven (7) patients with a variety of conditions in normal, benign GI diseases, polyps and colon cancer were tested.

CA11-19 Characteristics

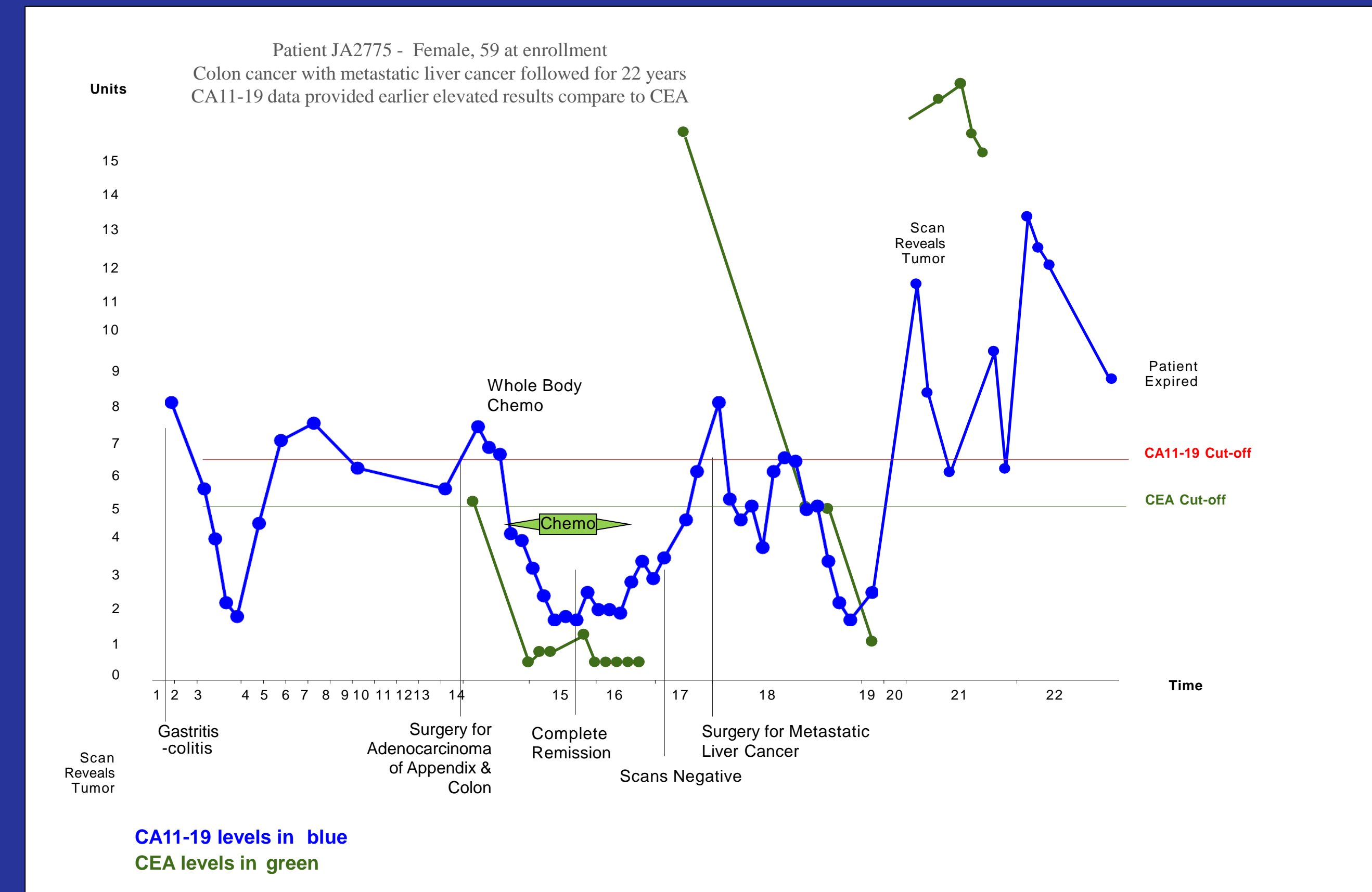
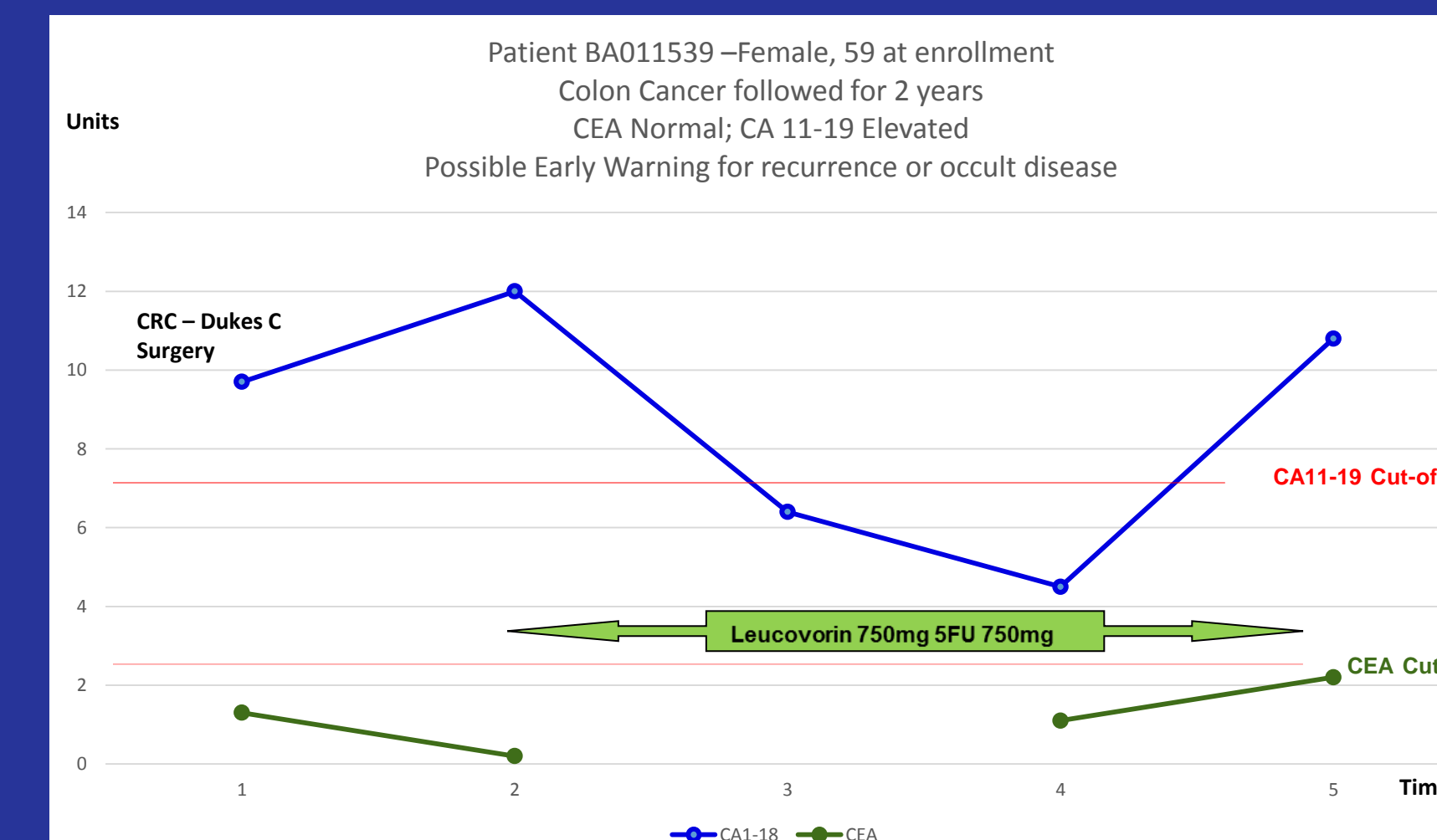
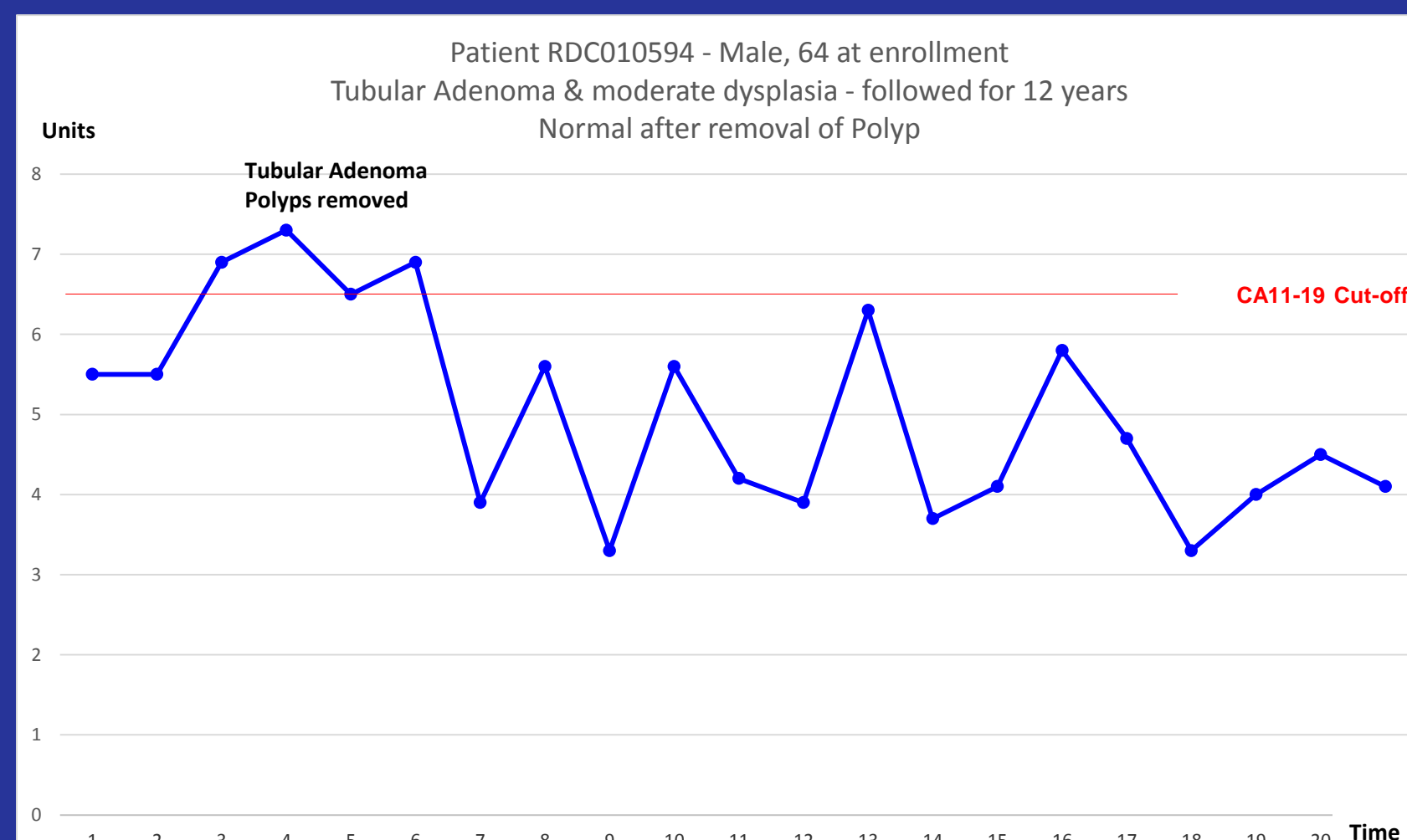
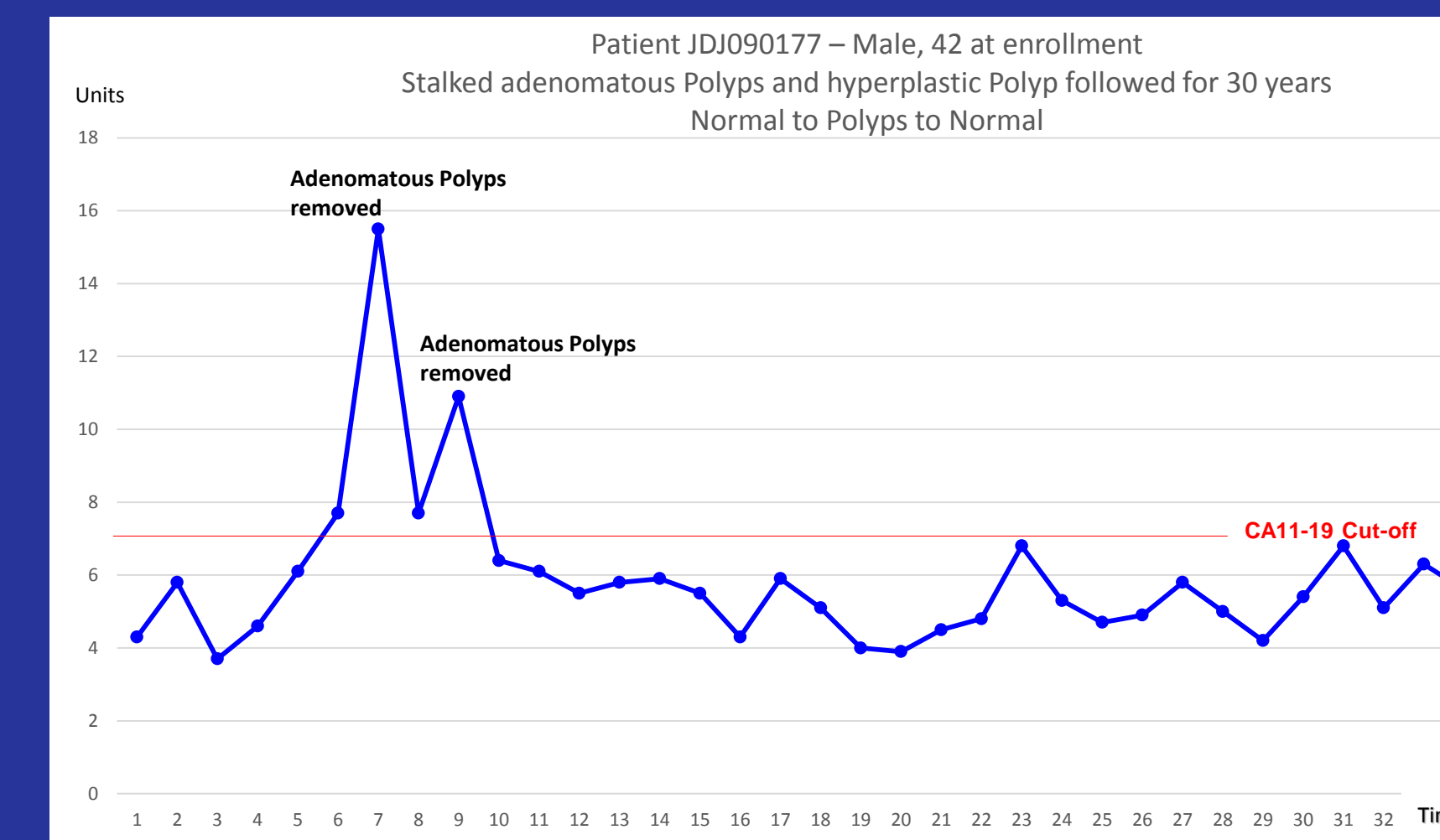
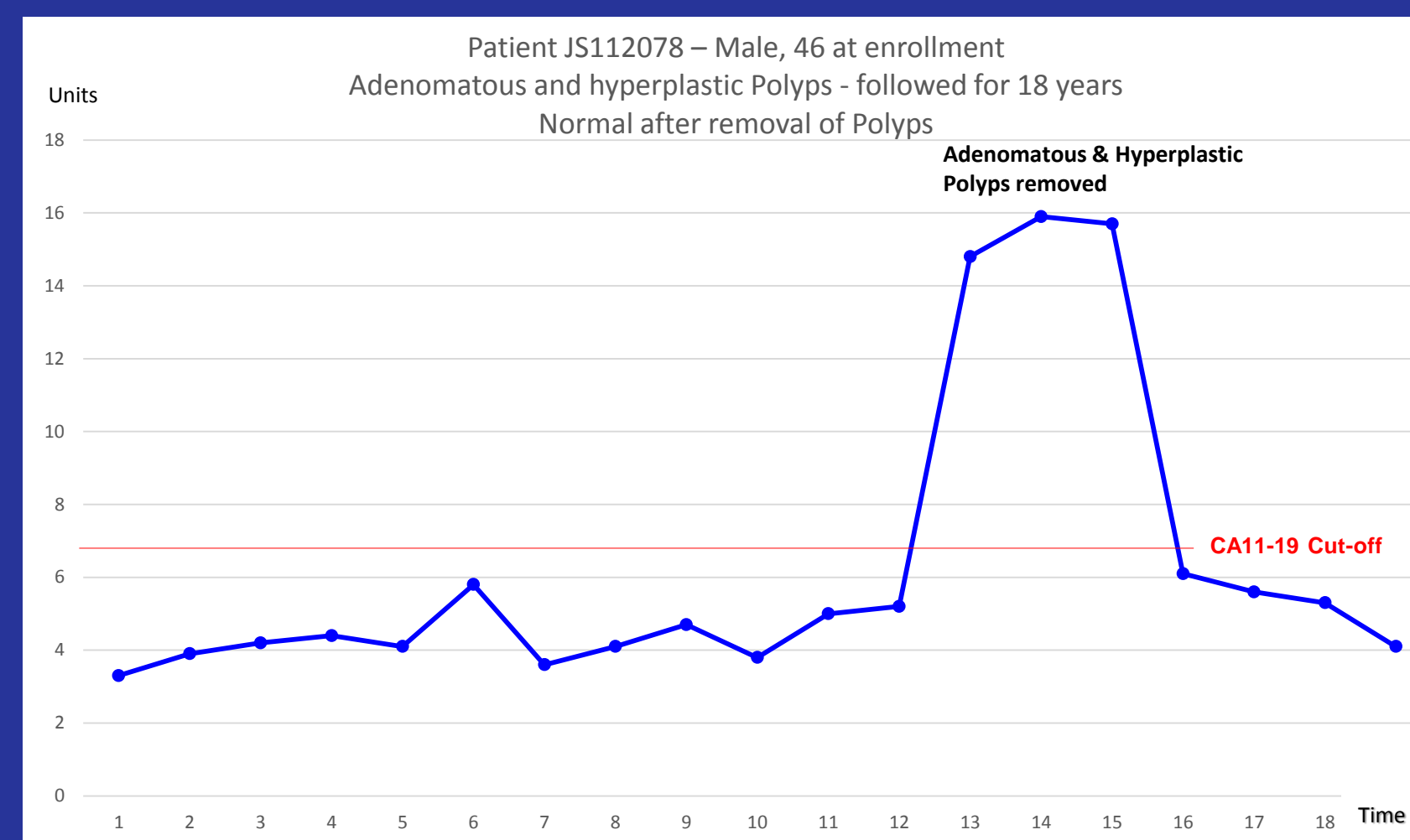
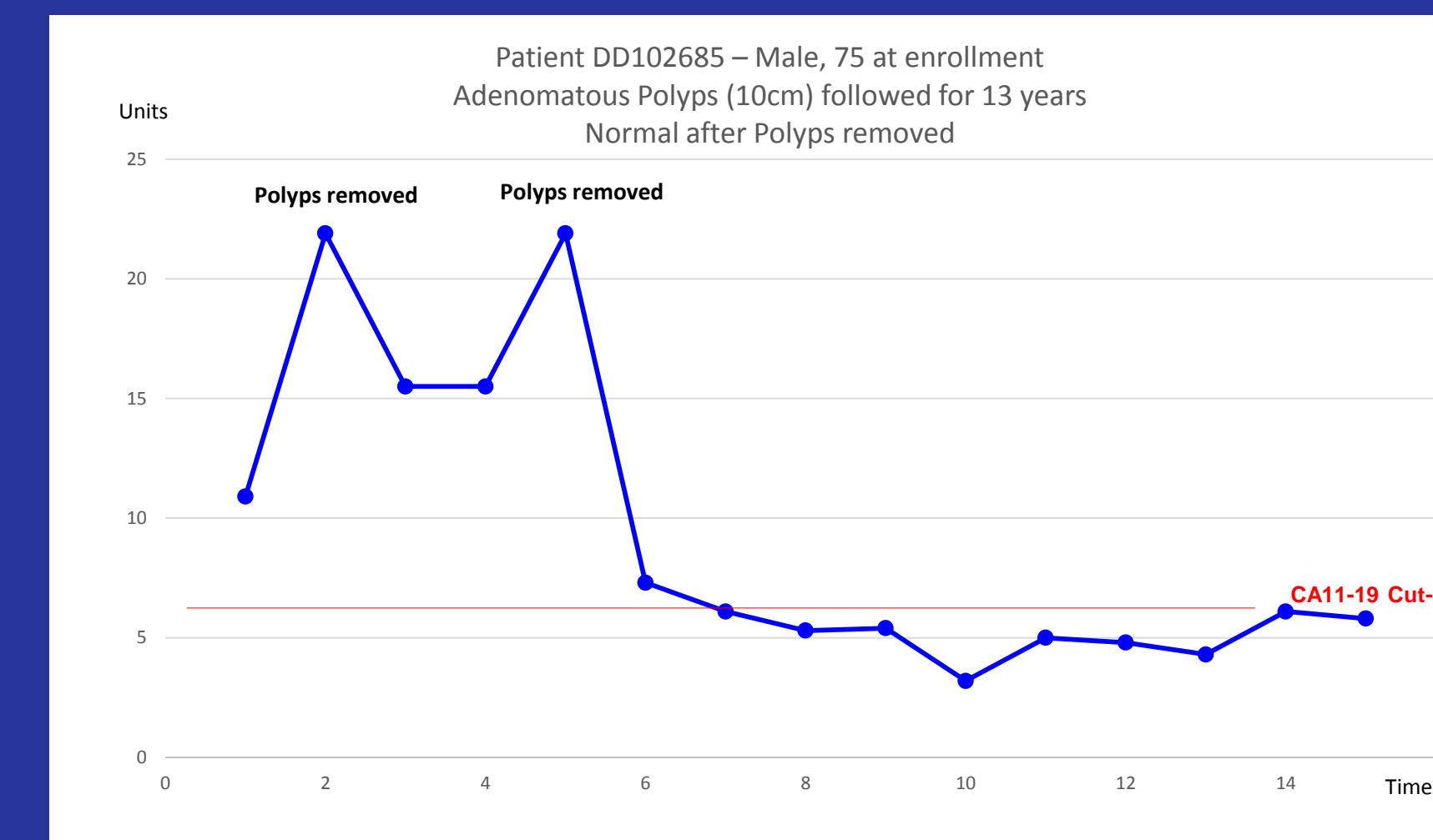
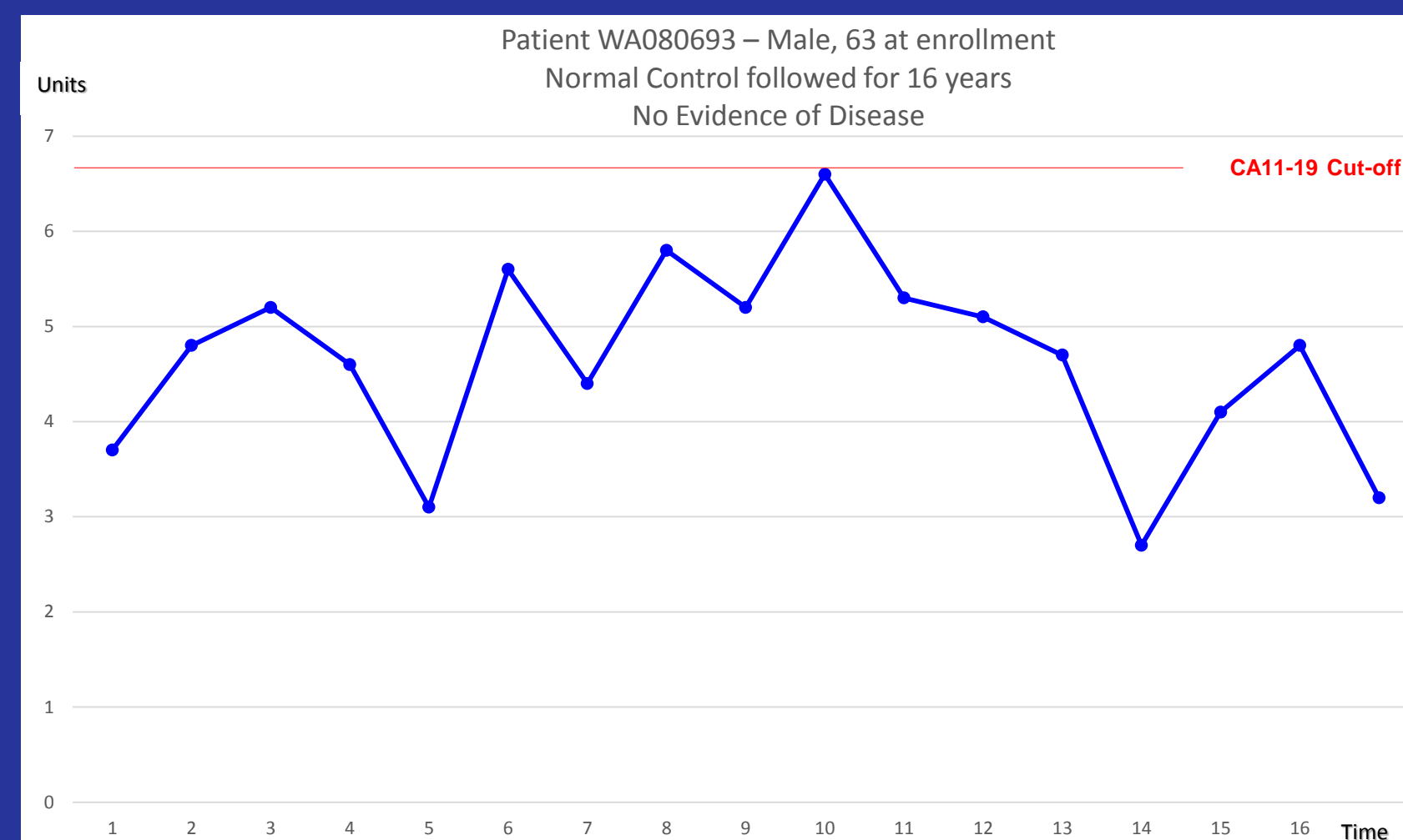
- CA 11-19 is a tumor antigen and recent amino acid sequencing data suggests that the 100 KDa, CA11-19 antigen is a 701 amino acid glycoprotein. The non-glycosylated 70 KDa protein is believed to be CEACAM5x1 (CEA) with one important distinction, an alanine deletion occurring at amino acid position 320. CA 11-19 antigen does not cross-react with CEA antibodies.

CA11-19 and CEA Testing

- The quantitative measurement of CA11-19 in serum was performed using a sandwich enzyme-linked immune-absorbent assay (ColoMarker ELISA, EDP Biotech Knoxville, Tn). A cocktail of two monoclonal antibodies to CA11-19 was coated to the surface of 96-well microtiter plate as the capture antibody. Anti-CA11-19 polyclonal antibody conjugated with alkaline phosphatase (AP) enzyme was used for detecting the antibody antigen complex via pNPP substrate and calibrators and controls were used to calculate the amount of antigen present in the blood reported as U/mL².
- Not all cases had companion CEA values; charts are otherwise complete.

RESULTS

Long-term Monitoring Data of CA11-19 Tumor Marker in Patients with Normal, Polyps and Colon Cancer Suggesting Possible Use in High Risk Patients for Recurrence of Colorectal Cancer



DISCUSSION AND CONCLUSIONS

Discussion:

- This long-term data from seven different patients indicate that CA11-19 may be useful for monitoring patients at increased risk for recurrence of colorectal cancer.
- Data suggest that CA11-19 in addition to or in place of CEA can add value in detecting early CRC recurrence, even as early as polyps.
- More clinical studies are needed to confirm CA11-19 as a viable tumor marker in monitoring and surveilling patients at increased risk for recurrence of colorectal cancer.

Conclusion:

- The Long-term follow-up data of 2 to 30 years of seven patients suggest that CA11-19 may be used for monitoring patients with High Risk of recurrence of Colorectal Cancer.

REFERENCES

- Carcinoembryonic antigen (serum), Association for Clinical Biochemistry 2012
- Bergein F. Overholt, MD, Donald J. Wheeler, PhD, Tommye Jordan, MS, Herbert A. Fritsche, PhD: Published Online: August 26, 2015, GIE. Journal of Gastrointestinal Endoscopy