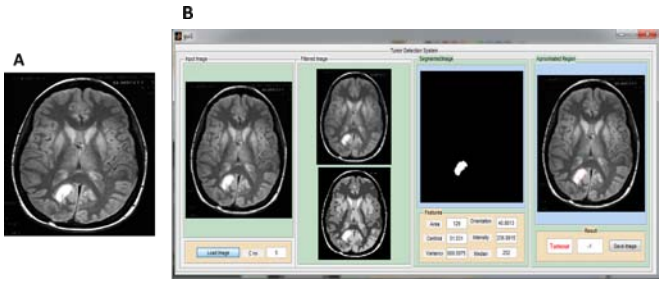

Figure 5: Analysis of brain MR image of 38 year old woman diagnosed with astrocytoma. **A**. Input MR brain image. **B**. Loading of a brain image, its filtered, segmented and approximated region of tumor.

The MR image of 10 year old boy diagnosed with glioma was used for detection of tumor using K-means clustering (Figure 6). Similarly, MR image of a person suffering from epidermoid brain tumor (Figure 7), 4 year old boy diagnosed with pediatric craniopharyngioma tumor (Figure 8) and a person suffering from ganglioglioma (Figure 9) were used to detect tumors using K-means clustering algorithm. After analyzing the results obtained indicated that K-means clustering algorithm is helpful in detecting tumors in brain from MR images. This method can be further used to diagnose tumors and treat the patients in feature. Taken together, K-means clustering algorithm is an efficient method to detect tumors in MR images of brain and can be used in detection of tumors.

Figure 6: Analysis of brain MR image of 10 year old boy diagnosed with glioma. **A**. Input MR Brain image. **B**. Loading of a brain image, its filtered, segmented and approximated region of tumor.

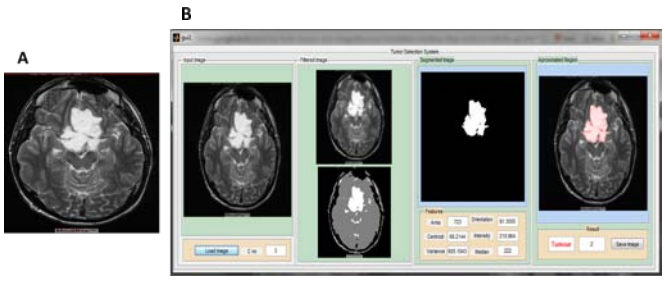

Figure 7: Analysis of brain MR image of 41 year old man diagnosed with epidermoid brain tumor. **A**. Input MR brain image. **B**. Loading of a brain image, its filtered, segmented and approximated region of tumor.

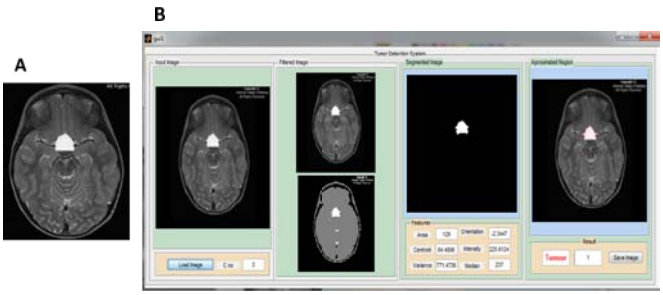

Figure 8: Analysis of brain MR image of 4 year old boy diagnosed with pediatric craniopharyngioma tumor. **A**. Input MR brain image. **B**. Loading of a brain image, its filtered, segmented and approximated region of tumor.

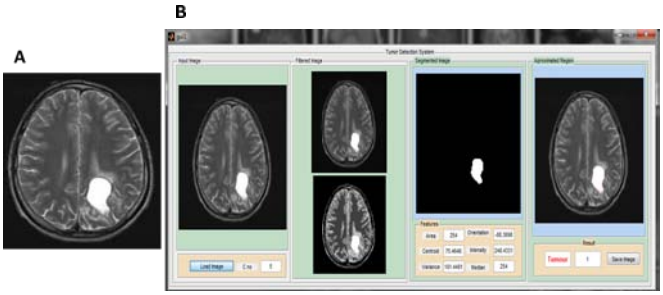

Figure 9: Analysis of brain MR image of 42 year old man diagnosed with ganglioglioma. **A**. Input MR image of brain. **B**. Loading of a brain image, its filtered, segmented and approximated region of tumor.

4. Conclusions

In the proposed method, segmentation and K-means clustering is combined for the improved analysis of MR images. The results that interpret unsupervised segmentation methods are better than the supervised segmentation methods. A pre-processing is required to screen images in the supervised segmentation method. The image segmentation method also requires considerable amount of training and testing data which significantly complicates the process. However, the image analysis of noted K-Means clustering method is fairly simple when compared with frequently used fuzzy clustering methods. Here, it is shown that JPEG2000 is a new compression standard for still images intended to overcome the shortcomings of the existing JPEG standard. It also provides loss of less compression with progressive decoding. The applications of digital libraries/databases and medical imagery can benefit from this feature. The standard incorporates a set of error resilient tools to make the bit-stream more robust to transmission errors. In this mode, regions of interest (ROI's) can be defined. These ROI's can be encoded and transmitted with better quality than the rest of the image. K-means based segmentation process to detect brain tumor is implemented.

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