Abstract

Osteoarthritis (OA) is commonly seen among older people and it is arthritic type disease. It is a degenerative joint disease where cartilage slowly degenerates. Cartilage that shelters the bone ensures the smooth crusade of the joints. In knee OA, exaggerated bones come into contact due to degradation of cartilage, causing swell, discomfort and defeat of motion. Due to stress, knee joints can be frequently incapacitated and broken. The early detection of KOA could alert people to slow down the progression of the illness. Encouraged by this, the paper presents an
Detection of Early Stage of Osteoarthritis with the Help of Image Processing Technique

automatic method to diagnose the Osteoarthritis disease. The cartilage of knee joint is segmented with pixel based segmentation method. For segmentation the texture filter method is applied. From segmented image cartilage area is calculated and depending on its estimated value image is classified into normal and OA affected. Osteoarthritis (OA) is commonly seen among older people and it is arthritic type disease. It is a degenerative joint disease where cartilage slowly degenerates. Cartilage that shelters the bone ensures the smooth crusade of the joints. In knee OA, exaggerated bones come into contact due to degradation of cartilage, causing swell, discomfort and defeat of motion. Due to stress, knee joints can be frequently incapacitated and broken. The early detection of KOA could alert people to slow down the progression of the illness. Encouraged by this, the paper presents an automatic method to diagnose the Osteoarthritis disease. The cartilage of knee joint is segmented with pixel based segmentation method. For segmentation the texture filter method is applied. From segmented image cartilage area is calculated and depending on its estimated value image is classified into normal and OA affected.

References

- Peter M. M. Cashman, Richard I. Kitney, Munir A. Gariba, and Mary E. Carter, "Automated techniques for visualization and mapping of articular cartilage in MR images"
Detection of Early Stage of Osteoarthritis with the Help of Image Processing Technique

- Kshirsagar, M. D. Robson, P. J. Watson, N. J. Herrod, J. A. Tyler and L. D. Hall, "Computer analysis of MR images of human knee joints to measure femoral cartilage thickness; Proc. of 18th Annual Int. Conf. IEEE.

Index Terms

Computer Science Image Processing
Keywords
Cartilage  Magnetic Resonance Imaging (mri)  Osteoarthritis (oa).