

3rd International Conference on

## Endocrinology

November 02-04, 2015 Atlanta, USA



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## The relationship of hip fractures to markers of micro-vascular dice

The microcirculation plays an important role in bone formation during the ante-natal period. It is not known whether microvascular disease in post-natal life plays a role in impaired bone health, such as osteoporosis. Here, we review several epidemiological studies that we have conducted in recent years showing that hip fractures, one the most serious manifestations of osteoporosis are associated with several markers of microvascular disease: (1) Retinal vascular disease, (2) albuminuria, and (3) abnormal white matter volume on a brain MRI. We further showed that the presence of albuminuria mediates the association of dementia a brain disorder related in part to small vessel disease of the brain with hip fracture risk. These findings, plus recent reports that specialized cells in the osseous microvasculature plays an important role in post-natal bone formation, support the hypothesis that extra-osseous microvascular disease may signify the presence of osseous microvascular disease that leads to osteoporotic fractures. Finally, we reviewed radiological studies that show diminished bone perfusion in association with osteoporosis.

## **Biography**

Joshua Barzilay, MD is an Endocrinologist in Atlanta GA who works for the Kaiser Permanente of Georgia. He is a Professor of Medicine in the division of Endocrinology at the Emory University School of Medicine. He has published more than 150 peer-reviewed papers.

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