Gorham-Stout disease (GSD) is a rare disorder (about 200 patients were reported) characterized by progressive bone loss and angiomatous proliferation, without new bone formation. The disease may affect every bone of the skeleton. The diagnosis of GSD is challenging and it is usually performed on exclusion criteria since tumors, infections, metabolic and endocrine disorders should be excluded. Many examinations are used, including a bone biopsy analysis. The cause leading to GSD is not totally understood but it could be related to alterations of bone remodeling activity. Indeed to ensure skeleton homeostasis, there should be a balanced activity of cells, called osteoclasts, which normally resorb the bone matrix, and osteoblasts that allow the replacement with new bone. An increase of osteoclast activity with or without reduced osteoblast function leads to decrease of bone mass with osteoporosis appearance. In this proposal we aim at investigating the skeletal alterations in GSD patients and identifying new biomarkers for this rare disease.