



**FIGURE 2.** Disease-free survival curves for patients group according to insulin-like growth factor-1 receptor expression.

tions in our study. In cellular experiments, there are growing evidences that support reciprocal interaction between estrogens and IGF-1R or between IGF-1 and ER.<sup>18</sup> In terms of HER2, Balana et al<sup>19</sup> suggested existence of hierarchical interaction between IGF-1R and HER2 in regard to HER2 phosphorylation. Multiple signaling pathways are involved in regulation of breast cancer proliferation, apoptosis and metastasis. Technologies such as cDNA array may be useful in understanding the role of IGF pathways in breast cancer.<sup>20</sup>

Though impact of IGF-1R expression on prognosis seems to be limited, IHC is a clinically useful tool for examining protein expression in archive materials. It also resolves the issues of localization and heterogeneity within the tissue. Moreover, blockade of IGF signaling pathway represents an attractive targeted therapy. Preclinical studies of IGF-1R targeted therapy, such as antisense strategies, have shown promising anti-tumor effect, and some are currently under clinical trials.<sup>21-23</sup> Determination of IGF-1R expression by IHC has potential in clinical use in selecting a particular subset of patients that may benefit from IGF-1R targeted therapy.

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