Endocrine aspects of organelle stress-cell non-autonomous signaling of mitochondria and the ER.

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Public Summary:
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Scientific Abstract:
Organisms have to cope with an unpredictable and dynamic environment. It is crucial for any living being to respond to these changes by buffering the effects on cellular homeostasis. Failure to appropriately respond to stress can have severe consequences for health and survival. Eukaryotic cells possess several organelle-specific stress responses to cope with this challenge. Besides their central role in stress resistance, these pathways have also been shown to be important in the regulation of proteome maintenance, development and longevity. Intriguingly, many of these effects seem to be controlled by only a subset of cells implying a systemic regulation in a cell non-autonomous manner. The understanding of the nature of this stress communication across tissues, its mechanisms and impact, will be paramount in understanding disease etiology and the development of therapeutic strategies.

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