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Abstract

Arbutus unedo (L.) belongs to the Ericaceae family and is more commonly designated as medronheiro in Portugal. The *A. unedo* is a shrub native from the Mediterranean, whose fruits are spherical and present a yellow colour, when unripe, and a yellow colour, when ripe. The berries provided by this shrub are very important in local agronomy but they are still underconsumed fresh. These berries have been described as antiseptic, diuretic and laxative action and more recently mentioned for hypertension, diabetes and inflammatory diseases. Recent studies demonstrated that these fruits are rich in phenolic compounds with beneficial properties in human diseases. To verify the beneficial effects against oxidative stress, a hallmark of the majority of degenerative diseases, *A. unedo* fruit compounds were tested in a cellular model. After phytochemicals extraction, these were subjected to a process of *in vitro* digestion to mimic the gastrointestinal alterations that occurs during digestion. The resulting metabolites from digestion were chemically evaluated and tested in yeast cells exposed to oxidative stress conditions. Our results show that these compounds, even after the digestion process, are able to protect cells against oxidative injury and, therefore, have an important role in the cellular defence mechanisms. In conclusion, our study provides valuable information that could boost the production and consumption of these fruits.