si ottiene

$$R(x,y) = \Big(x^2 + y^4 - |y y_0^3| - 3 y_0 |y y_0| (y - y_0) + $$

$$ - \frac{x^2 |y_0|^3}{2|y|} - \frac{3}{2} x^2 \frac{y_0 |y_0|}{|y|} (y - y_0) + o(x^2) \Big)$$

$$\Big/ \sqrt{x^2 + (y-y_0)^2} + o(1)$$

$$= \frac{y^4 - |y y_0^3| - 3 y_0 |y y_0| (y - y_0)}{\sqrt{x^2 + (y-y_0)^2}} + o(1)$$

$x^2 = o\left(\sqrt{x^2 + (y-y_0)^2}\right)$

$$= |y| \cdot \frac{|y|^3 - |y_0|^3 - 3 y_0 |y_0| (y - y_0)}{\sqrt{x^2 + (y-y_0)^2}} + o(1)$$

$$= o(1)$$

essendo $y \rightarrow |y|^3$ derivabile $\forall y$ e

$$\left| \frac{y - y_0}{\sqrt{x^2 + (y-y_0)^2}} \right| \leq 1$$