$$x = \sqrt{a}$$

$$x^2 = a$$

$$f(x) = x^2 - a$$

$$f'(x) = 2x$$

$$x_{n+1} = x_n - \frac{x_n^2 - a}{2x_n} = x_n - \frac{x_n}{2} + \frac{a}{2x_n} = \frac{x_n}{2} + \frac{a}{2x_n}$$