Some nonradial bifurcation results for the Hardy problem

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I will consider the Hardy problem

$$\begin{cases} -\Delta u - \frac{l}{|x|^2}u = u^p & \text{in } \Omega \\ u \geq 0 & \text{in } \Omega \\ u \in H_0^1(\Omega), \end{cases} \tag{1}$$

where $\Omega = \mathbb{R}^N$ or $\Omega = B_1$, $N \geq 3$, $p > 1$ and $l < \frac{(N-2)^2}{4}$. Using a suitable map we transform the problem (1) into a another one without the singularity $\frac{1}{|x|^2}$. Then we obtain infinitely many nonradial bifurcation points corresponding to some explicit values of l.