

METFORMIN AND ITS ROLE IN CANCER

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ABSTRACT

Diabetes is a very common chronic disease and prevalent in many countries including Malaysia. Over the years, there have been many studies that showed strong correlation between some types of cancer and diabetes. This triggered the interest of many researchers to also study the correlation between medications to treat diabetes including oral hypoglycaemics such as metformin and its effects on cancer. The objective was to review the current literature on any potential link between metformin and the risk or recurrence of cancer. The role of metformin in cancer in this review was divided to organ-specific cancer. In breast cancer, two out of the three studies concluded that metformin may have a role in cancer. However in both the studies, the reduction in risk of breast cancer was only seen in long-term use of metformin. In four of the studies looking at metformin and prostate cancer, two out of the four studies concluded that metformin causes no significant decrease risk of prostate cancer whereas the other two stated there was a reduced risk of prostate cancer in metformin users. Studies also showed that the incidence of colorectal cancer and ovarian cancer was lower in metformin users. However, from the two studies on lung cancer reviewed, there was no evidence to support the use of metformin in lowering the risk of lung cancer. In conclusion, metformin may have a role in cancer by reducing the incidence of overall cancer, breast cancer, prostate cancer, colorectal cancer and ovarian cancer. There is no beneficial effect seen for lung cancer. From these observational studies reviewed, a large randomized clinical trial should be carried out in order to confirm the association of metformin and cancer.