No, it is not possible for an event to be independent of itself. Independence between two events A and B means that the occurrence (or non-occurrence) of one event does not affect the probability of the other event. In other words, P(A|B) = P(A) and P(B|A) = P(B).

If we consider the event A to be the event itself, we would have to compare P(A|A) and P(A), which would mean comparing the probability of A occurring given that A has occurred to the probability of A occurring without any conditions. However, since A has already occurred, P(A|A) is equal to 1, while P(A) is the probability of A occurring before any information is known. In general, P(A|A) ≠ P(A), indicating that an event is not independent of itself.

No, it is not always true that if A and B are independent events, then Ac and Bc (complements of A and B, respectively) are independent events.