Melanoma is controlling metastasis of melanoma - fact or a myth?

The title is provocative, because most will most ask: but who other than mm can control the metastasis of melanoma?
But let's get on the path of facts and procedures about melanoma diagnosis, follow-up and treatment of metastatic melanoma.
1. Melanoma is metastasizing (through lymphatic pathways), hematogenic pathways (through the blood) and *per continuitatem* (direct expansion in the environment or the skin).
2. Melanoma should operate until they developed metastases of melanoma. Do we have proof of this? We have a CT, MR, PET_CT which shows metastases of melanoma or the appearance of visible skin metastases.
3. To ensure this does not happen (metastasis), we serve tools such as dermoscopy to detect (discover) melanoma or suspicious lesion(s).
Then we operate and get HSTP report confirming melanoma.
4. Next, we reoperate melanoma and get the histopathological findings in which we seek the closing sentence: In this surgery tissue there are no melanoma tumor cells.
5. What we do next? We monitor the patient with dg. Melanoma and every few months (3-6) doing dermoscopy. Why? We want to diagnose or rule out the existence of a new primary melanoma that often could develops in patients who have previously operated melanoma and the presence of skin metastases.
6. Mostly, in about the average of a couple of years the patient unfortunately comes with the finding of the MR or CT or PET-CT, which shows melanoma metastases in distant organs. So, how do these metastasis appear - hematogenous?According to everything we discussed above, what is in dispute here? There are many unanswered questions, such as, according to the same criteria, why melanoma which is "thinner" (calculated by Breslow scale in mm) is metastasizing before melanoma which is "thicker".So in this constatations and procedures we have to be more precise, so to be more accurate we have to put this in some context, or time, meaning exactly discerning what is happening at what time and what is the period of time between these events.
Therefore we need to know when something is created and when something will arise, as between before and the future there is a certain period of time is critical for knowing how much (exact) time we need from past to the future.
So melanoma should be operated so that it would not metastasize or will metastasize.

Time of the metastasis we put in the future. Are we sure that it is so? Do we any proof for this? We have a CT, MR, CT Pet scans, but that time with respect to metastasis? This is the time of detection of metastatic melanoma. Is the time equivalent or close to the time the development of metastases? We think that it is and we put the development of metastasis in future time. Are we sure of this? Between the time of the occurrence of metastatic melanoma and detection of metastatic melanoma is a certain period of time. We know the exact time only for detection of metastasis of melanoma but not the time of their development(creation). Therefore metastasizing is

an event which is not well defined in relation to time.

For prevention, we have tools for rapid detection mm, in a procedure called dermoscopy. When we find the suspicious lesion excision is indicated, and when p-h confirms melanoma, it indicates (repeated operations). In this report we are interested in just one sentence "in this tissue there are no melanoma tumor cells." Then we continue to monitor dermoscopy and oncology patients every few months in order to rule out other primary melanoma, which is more common in patients with melanoma. Sometimes in some patients unfortunately after a few years (on average two years) comes with findings of MR or PET-CT which demonstrate metastases of melanoma or skin metastasis.

If they develop by blood circulation the question is from what source? We have proof for this in excised tissue there are no melanoma or tumor cells and we also dermoscopically exclude possibility of another primary melanoma.

Melanoma is not present anymore, but a metastasis are.

So from where are metastasis? Is this some kind of magic mm?

No, it is not and this has an explanation. The melanoma early in the transition in *melanoma in situ* in melanoma stage disseminated cells "seed" among tissues and organs that are hidden among the healthy cells and organs; we cannot detect them. They need a signal for activation and multiplication (proliferation) that comes later. So there are again two terms, two different times: while I dissemination of metastatic cells and II during their proliferation or multiplication when they become visible. In between this there is time that is different and individual for each patient.
So who or what determines our individuality? The answer is genetic and genes. Genes and skin are very connected. Thanks to this fact, some of us have a lot of moles or a little (less). Hypothetically, you can "take off" your own skin and put another but again it will appear similar or the same number of moles as determined by the genes. Can the gene that controls the formation of nevi mutate? It can and instead of stimulating (monitors) nevus cells in the production of nevi, it can stimulate metastatic melanoma cells on the proliferation and the formation of metastases. So melanoma is no longer needed to further the course of proliferation (multiplication) of metastatic melanoma that mutated genes lead further. According to the time that is required for such a mutation to occur is the period (a few months or years) between dissemination (spreading) and proliferation (duplication) of metastases. So it is now clear why melanoma eg., Breslow 0.4 mm and 4 mm practically behave the same as they have already gone through phase of dissemination of metastatic melanoma, and when there will be a proliferation of metastases depends simply on the timing of gene mutations, which is individual(time) in each person but not “unpredictable” as we thought and explain.
So it is now clear that the issue of melanoma controlling metastasis of melanoma makes sense and actually, after the phase of dissemination of metastatic melanoma, it is no longer needed because the process is run by other mechanisms.

It is important to say that melanoma *in situ* can be early detected and removed, because so far it is not known that melanoma in situ metastasizes which means that the process has not yet begun. It is very likely that the process begins very early, earlier than we think, nearly after transitioning melanoma to *in situ* to melanoma (crossing the epidermis and dermis border)
What this means practically? It is known that, for example, *herpes simplex* virus once it gets into the human organism remains there a lifetime and it will be activated from time to time, usually when immunity is weakened. Unfortunately, for this hypothesis that would mean that patients with melanoma carry within themselves metastatic cells, in various organs, that only after a certain period of time start to multiplicate. One might suggest that in this moment the patients should start cytostatic therapy (after surgery melanoma), but it would not work then/at that time of the disease because these metastatic cells are in a resting stage, therefore, they are not initially proliferate even though they are present.
Considering that our patients do not die of melanoma but of metastatic melanoma, our goal is to detect metastatic melanoma at the stage of dissemination of cells before they become visible metastases. If we block or prevent proliferation in the moment of metastasizing, we win this battle and save patients. Therefore our task in the future research is to focus on the clarification of the mechanism of formation and multiplication of metastatic melanoma that has not yet been sufficiently clarified.

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