

IVF SUCCESS RATES INCLUDING BIRTH DATA: SANATORIUM HELIOS BRNO IN 2018

It is true that all IVF centers do not operate the same way. They do not have the same procedures, they do not use the same materials and devices, and their staff have not had their training of the same quality, and they do not produce embryos of the same quality. The price you pay for IVF is more or less similar everywhere in the Czech Republic. The health insurance companies also pay the same amount of money to all the centers. But your chance to fulfill your dream to get pregnant and to give birth to a healthy child, varies considerably, which can be clearly demonstrated on the data available on Czech IVF centers' websites.

At present there is currently no independent databasis to objectively compare success rates of individual centers. The available data are always cumulative and even outdated. That is why we always try to explain and clarify our results and reveal our data as much as possible. We conclude from our long experience and the experience gained in cooperation with the global leader in the field of IVF research by the Australian company Genea, whose exclusive licensing agreement we own for nearly 15 years.

Each of the IVF clinics provides the results / success differently. For clear idea we present the results of positive pregnancy tests (G +), clinical pregnancies with proven fetal heart activity (ASP +) and births (P).

Almost every other patient, who has undergone at least one embryo transfer from one's own eggs in 2018 in Sanatorium Helios in Brno, has given birth.

Most of these patients have become pregnant and given birth just after the first transfer in 1 IVF cycle.

THE IVF SUCCESS RATE PLACE US AMONG THE BEST IVF CENTERS IN THE WORLD.

(confirmed by accreditation of the independent Global Clinic Rating)

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1. The data about our IVF patients in 2018

Although a number of centers in the Czech Republic are specialized in foreign clients, most of the patients in Sanatorium Helios are Czech patients with reimbursement of the cycle by a health insurance company and using their own eggs in IVF.

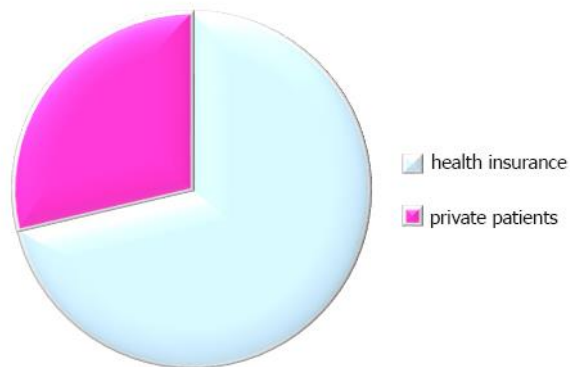


Chart No. 1: More than 70 % of all performed cycles were IVF cycles with reimbursement of health insurance

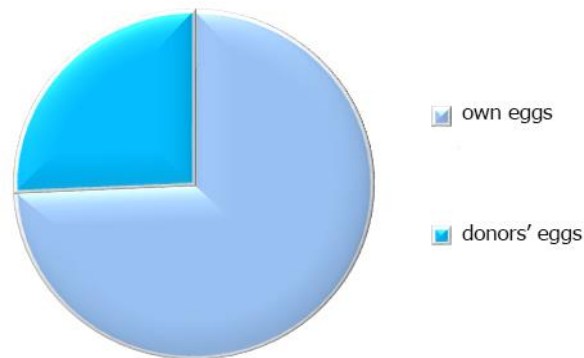


Chart No. 2: 74 % of all performed cycles were IVF cycles with own eggs

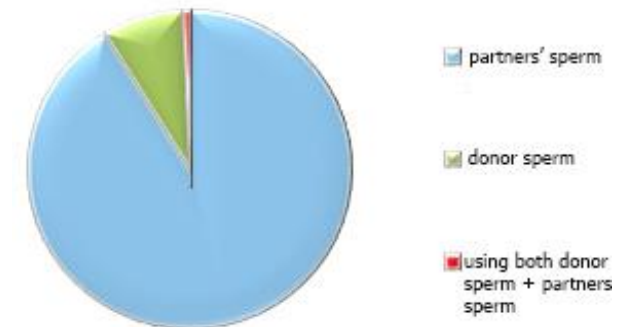
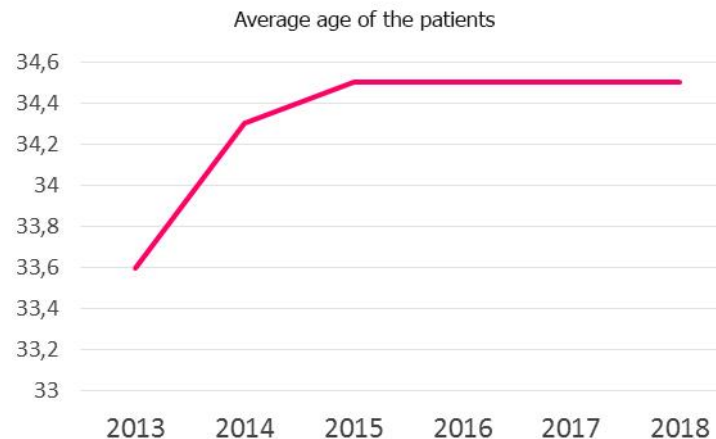


Chart No. 3: In more than 91 % of the cycles, partner sperm cells were used to fertilize the eggs



Charts No. 4 & 5: In 2018, patients under 35 years accounted for less than half of all patients. Patients aged 40 years and over accounted for more than 12% of all patients. The mean age of the patients has not changed in the last 4 years.

Processed by RNDr. Kateřina Wagnerová, Head of IVF Laboratory

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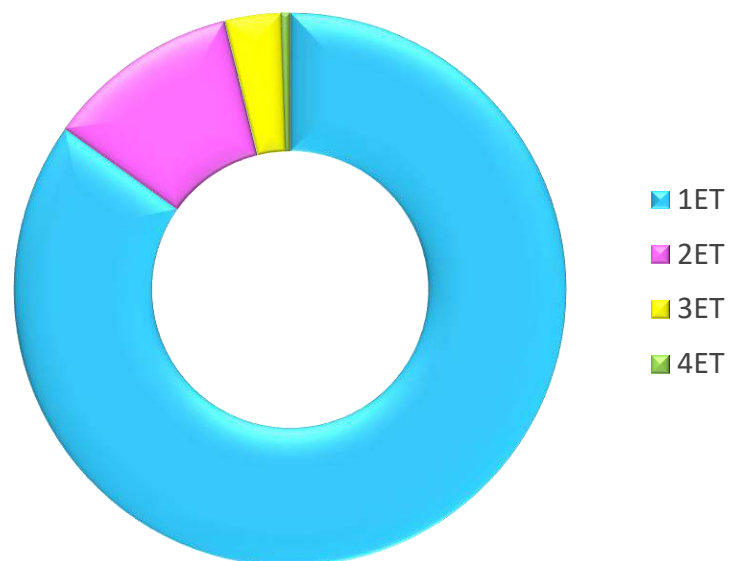


Chart No. 6: The chart shows the number of patients who 1, 2, 3, and 4 transfers from one IVF cycle in one year in the Helios Sanatorium in Brno in 2017.

85 % of the patients had only 1 transfer of 1 embryo.

In the next part of the analysis of the results we will compare individual parameters in this group - patients who have 1 chance of getting pregnant.

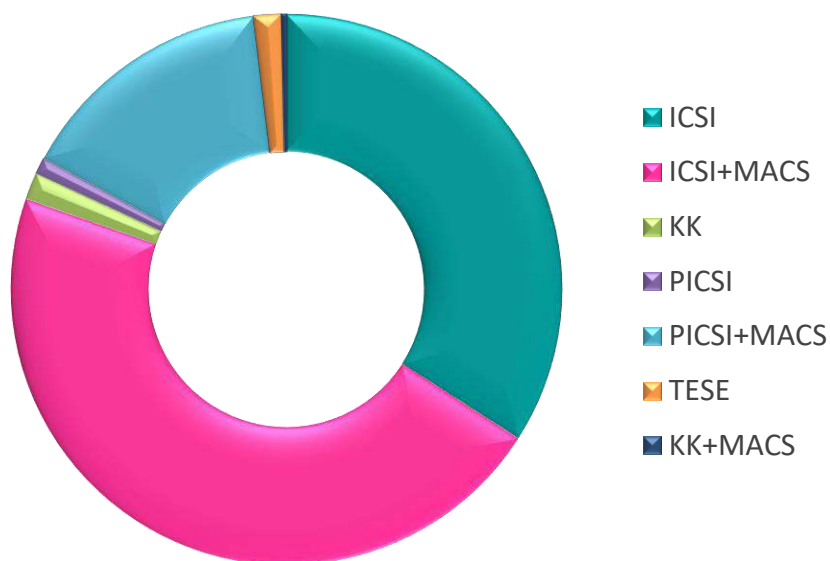


Chart No. 7: Methods of egg fertilization that were chosen based on results examination of both partners

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2. Comparison of age groups of patients regards to development of embryos

Year after year we have more and more "worse prognosis" patients. They are older and have more unsuccessful IVF cycles. More and more patients are coming to us after unsuccessful IVF cycles in other centers. To compare the success, we only show cycles with our own eggs.

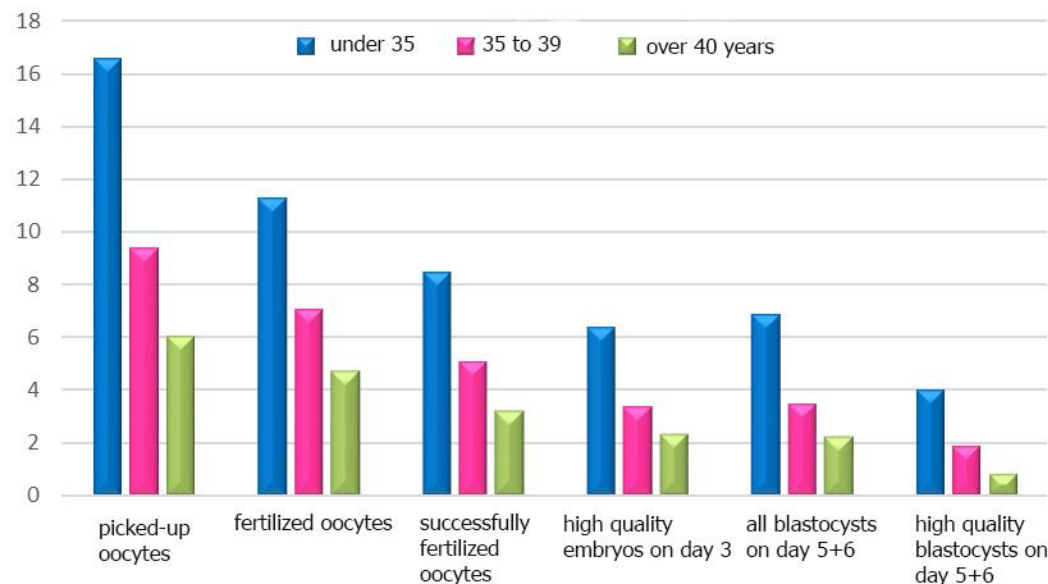


Chart No. 8: Comparison of egg fertilization and further development of embryos in patients of different age groups. Obviously, on average more than a third of embryos that develop well on day 3 would be unnecessarily transferred as they would not produce good blastocysts on days 5 and 6. The graph also shows that although many embryos will grow to the blastocyst stage, these embryos are not good and suitable for use (ET, freezing, PGT examination). On average, almost half of the blastocysts do not have sufficient quality (but also depends on the patient's age). In the group of patients under 35 years of age, the large difference in the number of eggs collected and fertilized is due to the fact that many couples only have a certain number of mature eggs fertilized. It does not mean that all mature eggs are fertilized.

	do 35 let	35-39 let	40+ let
Proportion of patients	47,4 %	40,2 %	12,4 %
Average age	30,2	37,1	42,0
Average number of IVF cycles	1,7	2,2	2,5
Cycles without any collected eggs after the stimulation	0 %	1,9 %	1,5 %
Cycles without ET or frozen embryos	8,6 %	26,9 %	41,8 %
Average number of collected eggs	16,6	9,4	6
Average number of fertilized eggs	76 %	72 %	69 %
The cultivation yield	47 %	37 %	26 %
The average number of transferred embryos	1,0	1,0	1,0
The average number of vitrified embryos from one IVF cycle	3,6	1,64	0,69

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3. Success rate of IVF cycles

3.1 One transfer of one embryo

Some patients have 1 transfer during one year, others 2, 3 and 4 (from one cycle). Therefore, for the objective calculation of success and comparison of IVF cycles, not all transfers and patients can be calculated together. Some patients have more chances (transfers), others less. Moreover, most of the patients (85 %) completed only one transfer last year - fresh ET or KET - see Chart 6.

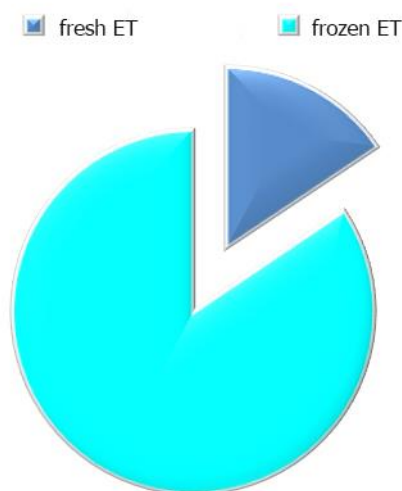


Chart No. 9: The type of transfers in one transfer of one embryo in 2018.

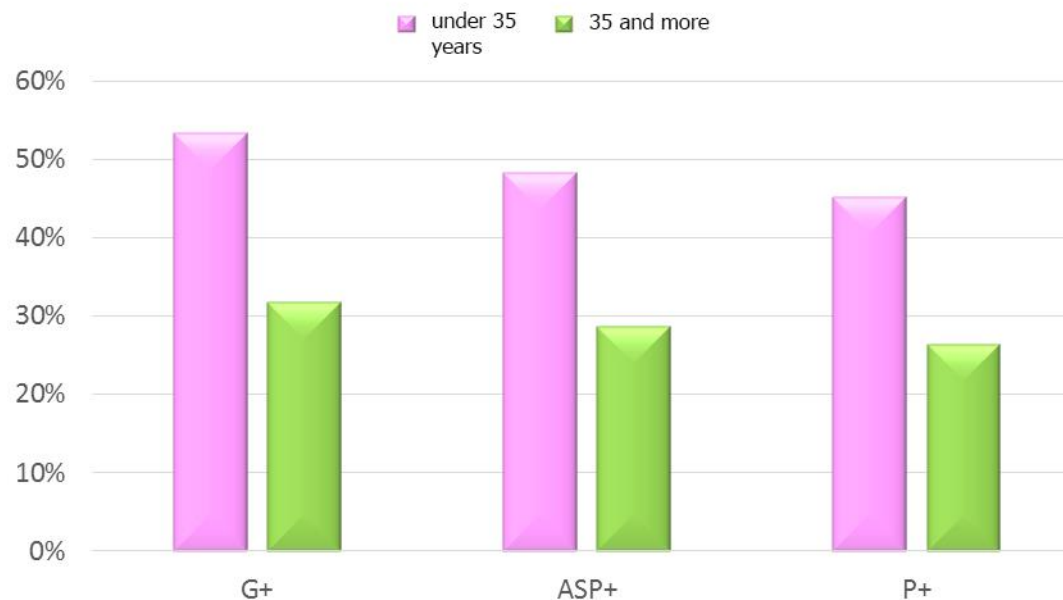
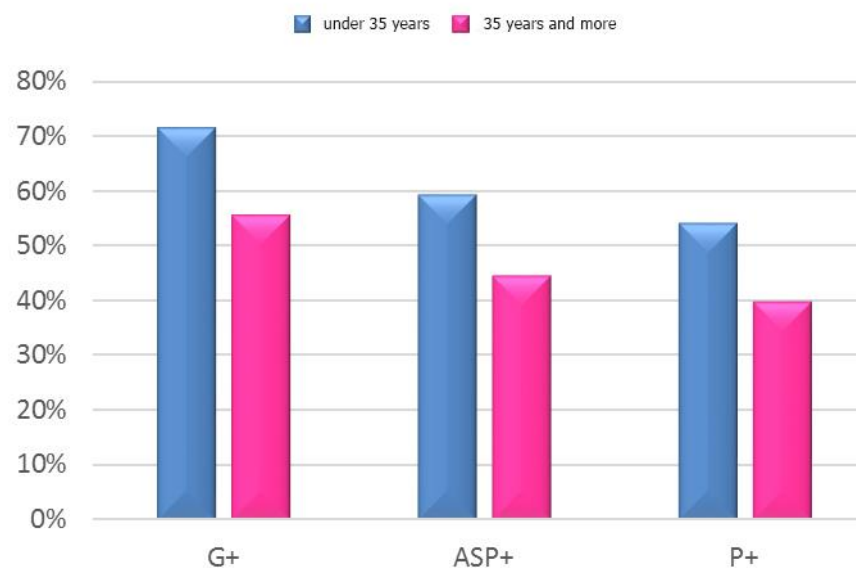
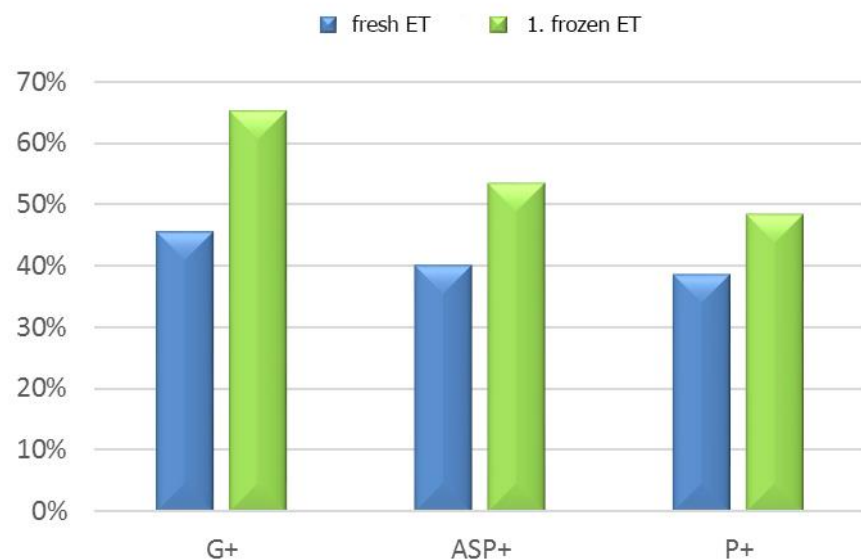


Chart No. 10: The overall success rate of all patients who had a transfer of 1 embryo-G+ in 2018 were positive pregnancy tests, ASP+ clinical pregnancy demonstrated by fetal heartbeat, P+ delivery

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3.2 The first frozen embryo transfer

Based on our long-term experience and current scientific knowledge, we prefer a natural cycle transfer. Therefore, there are a lot of transfers that could be carried out as "fresh", but they have been proceeded in one of the other cycles as frozen embryo transfer. The following charts show the results that clearly confirm our right course.



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Chart No. 11: Comparison of the success of fresh transfers and 1st frozen embryo transfer - G+ is a positive pregnancy test, ASP+ clinical pregnancy demonstrated by fetal heartbeat, P+ delivery

Chart No. 12: Comparison of success rate 1. frozen transfer in the group of younger and elder patients: G+ are positive pregnancy tests, ASP+ clinical pregnancy demonstrated by fetal heart rate, P+ delivery

There is evidently higher success rate in vitrified embryo transfers compared to fresh transfers in cycles after stimulation. Higher success rates of pregnancy are due to the natural cycle in which the embryos are transferred as frozen embryos, and also in this group it is partly reflected the higher success rates of transfers of the embryos with the correct genetic finding.

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3.3 Genetic testing of embryos

Even though good quality blastocysts (stage 5th and 6th day of embryo development) and both parents are genetically healthy (having a normal karyotype), genetically defective embryos can emerge. Such embryos may cease to develop very soon, but these errors may also be the reason why a high-quality embryo (in terms of development and morphology) does not nestle in the uterus, or pregnancy occurs, but it is very early lost.

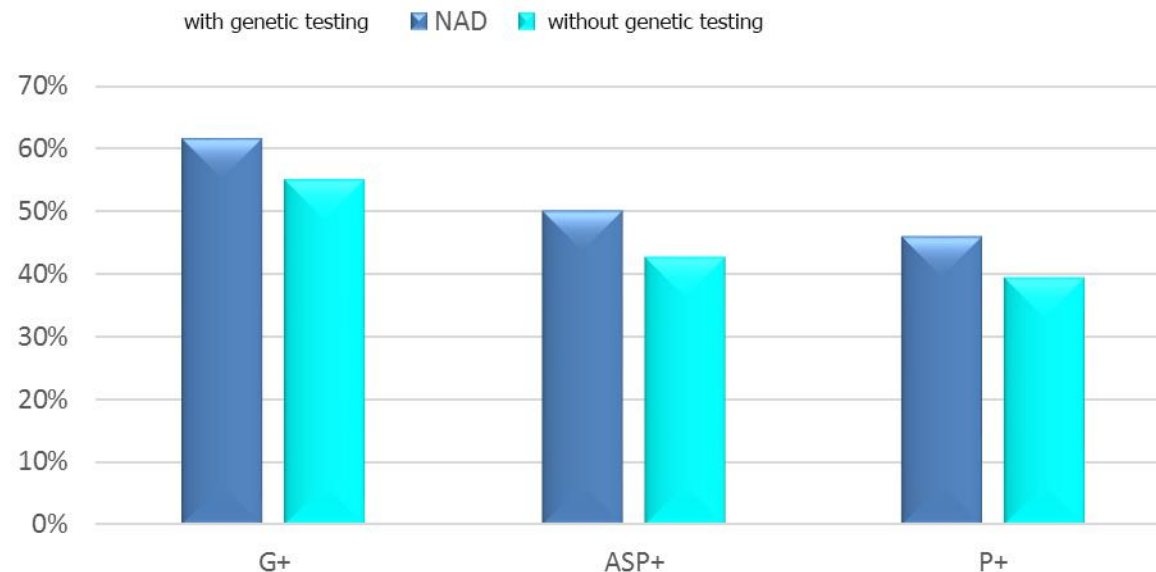


Chart No. 13: Comparison of success of embryo transfers after preimplantation genetic testing of aneuploidy PGT-A (formerly PGS) and without PGT-A examination - G+ are positive pregnancy tests, ASP+ clinical pregnancy demonstrated by fetal heartbeat, P+ delivery

Embryos for which genetic defects were not found in PGT examination are designated as NAD.

Elderly women produce a significantly higher number of chromosomally abnormal blastocysts compared to younger women - according to our results, approximately one third of genetically abnormal embryos occur in younger women (under 35 years of age), whereas in elder women (35 years and over) they are genetically abnormal after the PGT-A examination, almost every other embryo was identified. If embryos are labeled genetically abnormal after PGT-A, such genetically defective embryos are excluded from further use, thus increasing success and shortening the time required for successful pregnancy.

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3.4 Success rate after more than one transfer

Of course, we can not only count in group of patients who have had one transfer of one embryo. More transfers are sometimes needed to succeed. From the data for 2017, it is clear that almost 3 % of transfers (1, 2 or 3 transfers), 60 % of patients gave birth! This is the calculation of the cumulative success of all transfers that have been done in 2018.

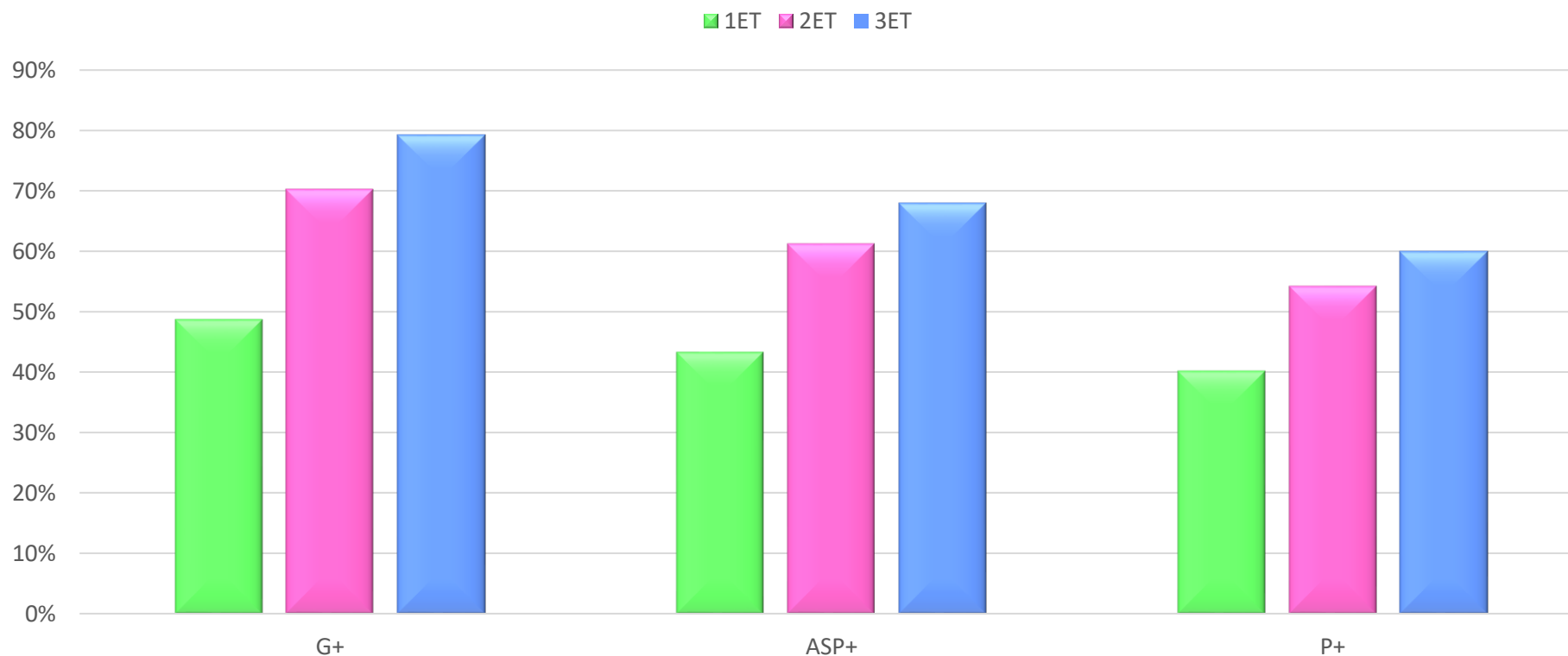


Chart No.14: The following chart shows how successful the patients were in the other “groups” - those who had 2 transfers (68 patients), 3 transfers (20 patients) during 2018. Group 4 transfers (3 patients) are not shown in the graph.

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Our practices differ from other IVF centers in particular by the facts that:

- Before starting treatment, we perform a comprehensive examination of both partners (hormonal profile, immunological examinations, genetic tests, semen analysis and sperm functional tests, etc.).
- We perform monitoring during the stimulation with three to four check ups (blood sampling + ultrasonic examination).
- We try to optimize the timing of both egg retrieval (oocyte pick up) and transfer. Sometimes it is necessary to prolong or shorten the length of stimulation according to the results of the check ups. That is why we work 7 days a week. We adjust the timing so as to achieve the optimal result.
- We always perform so-called prolonged cultivation until the 5th - 6th day of embryo development, and we transfer only embryos in the blastocyst stage.
- We transfer only one embryo, always after prolonged cultivation and at the correct time with respect to the cycle phase.
- We perform PGT examinations to help eliminate genetically defective embryos from further use. This reduces the number of unnecessarily used transfers and thus increases success and shortens the time required for a healthy pregnancy.
- Most cycles are done as so-called freeze all cycles, so we prefer not to perform a fresh ET, but we freeze (vitrify) all high-quality embryos. Fresh transfers account for only a small part of all transfers in 2018.

*We hope, that not only our results have been persuasive, that Sanatorium Helios is the best choice for you.
Please come and convince about it yourself. We look forward to meeting you.*

On behalf of the whole team of Sanatorium Helios Brno

prim. MUDr. Pavel Texl, Chief Physician

Processed by RNDr. Kateřina Wagnerová, Head of IVF Laboratory